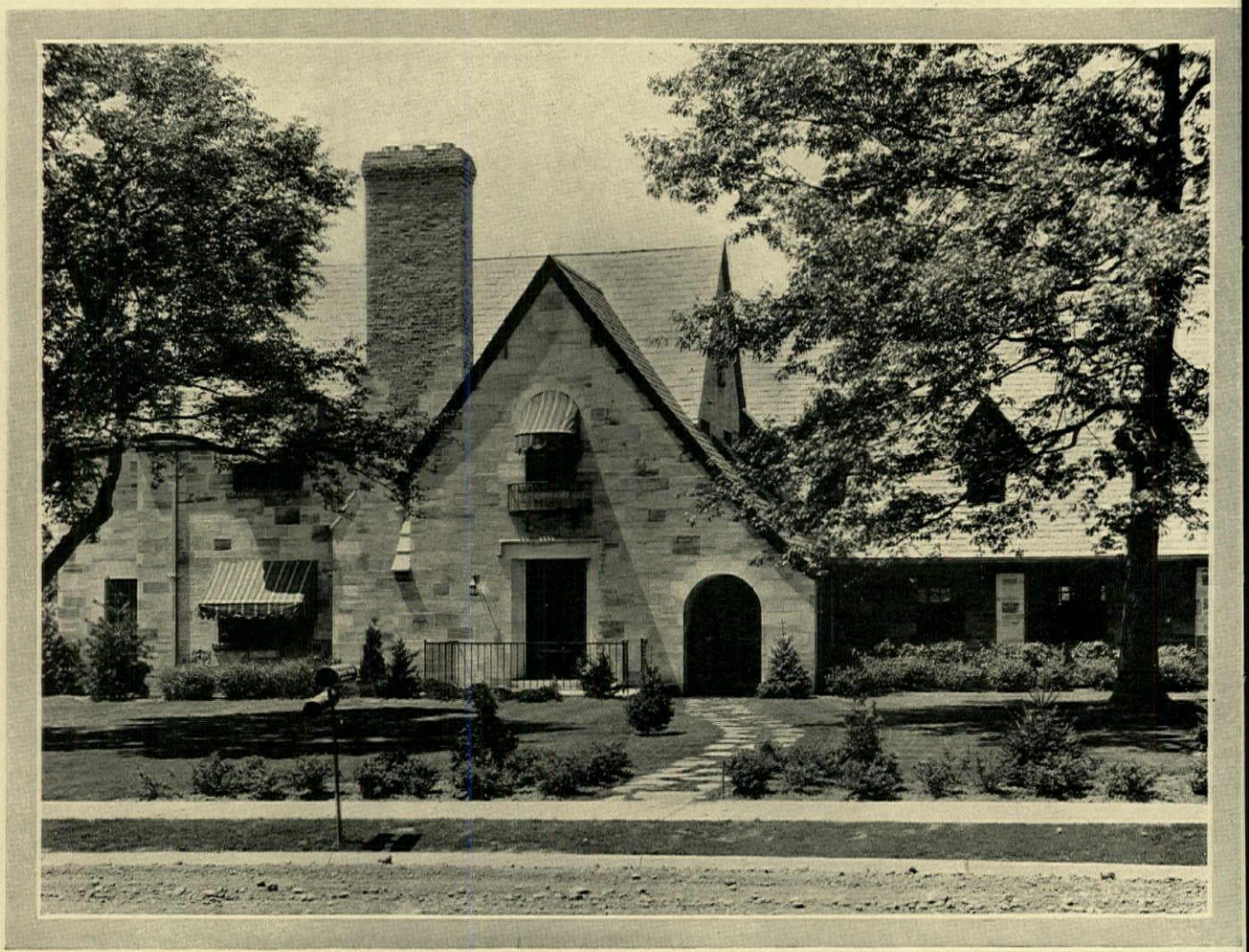
NOVEMBER 1930

PENCIL POINTS

A JOURNAL FOR
THE DRAFTING ROOM

35 CENTS A COPY

21,000 COPIES OF
THIS ISSUE PRINTED



Residence, Birmingham, Mich. A. L. Weeks, Architect. J. K. Burns, Builder. Old Gothic Shot-sawed Indiana Limestone.

The Sawed Stone Exterior gains quick acceptance

More good house designs needed. Write for literature

BEAUTY of wall surface at moderate cost is leading more and more homebuilders to become interested in Ilco Riplstone. Ilco Riplstone is Indiana Limestone of selected colors, textures and sizes, prepared for use as a sawed masonry facing.

Satisfactory results are assured when you specify stone from the quarries of Indiana Limestone Company. Every piece of Ilco Riplstone is "hand picked" so as to conform to your design. You cannot build of local stone with such a minimum of preparation cost, nor with such assurance of success.

The Ilco Riplstone wall surface has a variety of color-tones which will give your design the note of distinction you have been looking for. The many beautiful houses already built of this stone show what can be done. Your talent devoted to designs suitable for limestone will result in more fine houses. Why not plan to use Ilco Riplstone in your next house project? We will give you every possible assistance. Your client will pay only 5% to 6% more than the same house would cost with some other facing material. Send today for our literature. Fill in the coupon opposite, clip and mail.

Box 2184, Service Bureau,
Indiana Limestone Company, Bedford, Indiana.
Please send literature regarding Ilco Riplstone.

Signed.....

Street.....

City.....*State*.....

INDIANA LIMESTONE COMPANY *General Offices:* Bedford, Indiana. *Executive Offices:* Tribune Tower, Chicago.

Pencil Points, published monthly by The Pencil Points Press, Inc., at 258 Atlantic St., Stamford, Conn. Publication office Stamford, Conn. Editorial and Advertising Offices 419 Fourth Avenue, New York, N. Y. Yearly subscription $3.00, single copies 35 cents. Entered as second class matter, March 10, 1930, at the Post Office, Stamford, Conn., under the Act of March 3, 1879. Volume XI, No. 11. Dated November, 1930

Wall Units *of* Atlantic Terra Cotta

Particularly Adapted for Interiors

Catalog on Request

An entirely new development—Atlantic Wall Units have every advantage of handmade Terra Cotta.

Great economy is due to the fact that Wall Units are made mechanically to standard size, with every saving attending on quantity production. Quick and easy to erect, there is great saving in labor costs.

The standard size is 8″ x 16″. The bond is 2, 4, 6 or 8 inches. Cove base pieces, inside and exterior miters, and bull nose, plain or modeled cap pieces, are made as required.

The entire line of Atlantic colors, hundreds in number, is open for selection.

Atlantic Wall Units are particularly useful for lining lobbies and corridors in office buildings, schools and hospitals, replacing less durable materials or materials that are far more expensive. Atlantic Wall Units complete the walls structurally and give a permanently enduring surface, clean and sanitary, that can be completely renovated at any time by washing with soap and water.

Wall Units can be used for lining garage interiors, especially the high class office building parking type of garage, subways and tunnels. They can be used for driveways of hotels (for example the driveway of the new Waldorf Astoria Hotel).

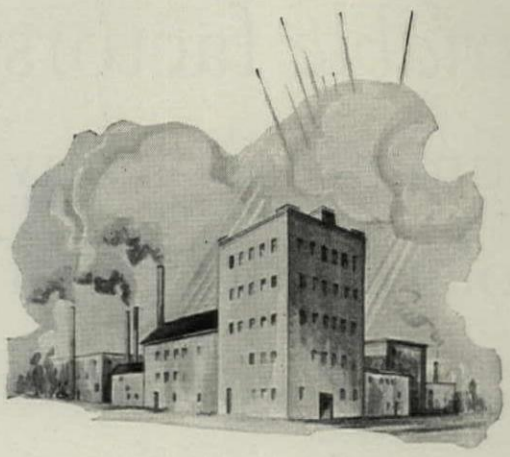
Power house interiors, dairies, bakeries and food product factories require maximum light reflection and the cleanliness of Terra Cotta Wall Units.

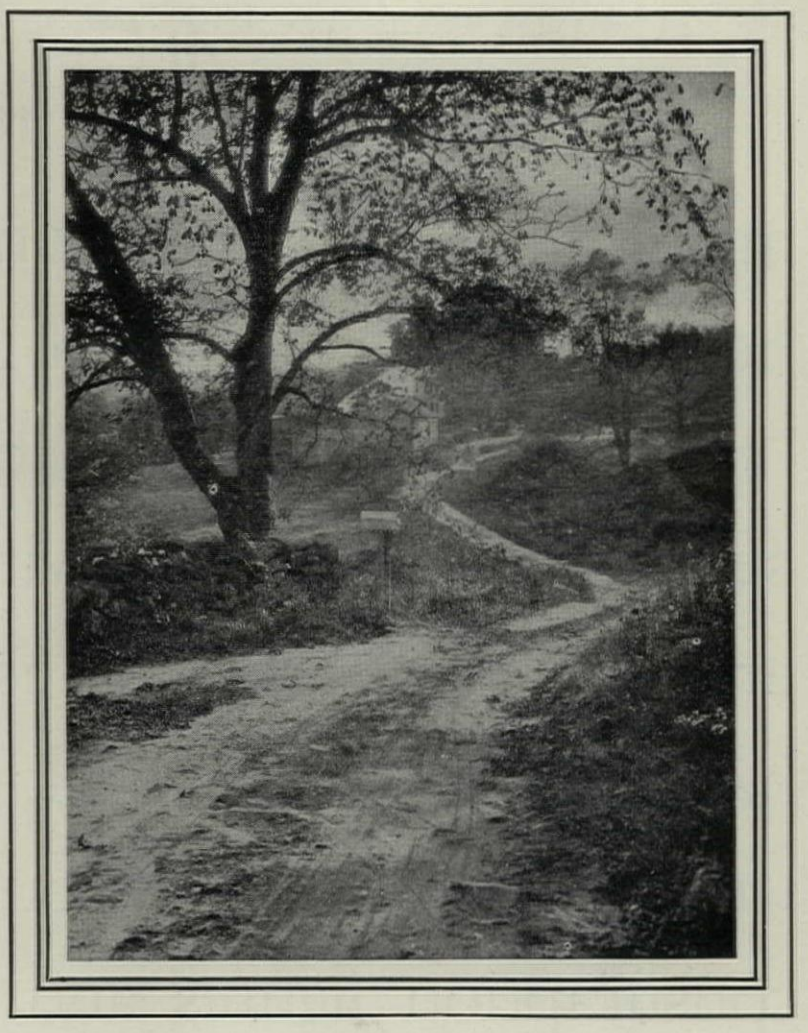
Atlantic Wall Units are manufactured in an entirely new way. The development is one of the greatest importance to architects, owners and builders.

In writing for catalog please specify "Wall Units."

Atlantic Terra Cotta Company
19 West 44th Street, New York

Atlanta Terra Cotta Company
Atlanta, Georgia





"... he gave his building the quiet that men seek in forest and field"

BUILDINGS *have* voices. Some are harsh voices that shout and scream. Voices that ceaselessly call, "Don't think . . . hurry, hurry, hurry!" Voices that distract the men who work within their walls.

But here and there you find a quiet, friendly building that hardly whispers. It never, never repeats what is spoken within its walls. Even when people fairly swarm through the corridors you barely hear the building's voice. And then it only says, "Hush . . . we must have no noise here." For the architect planned more than beautiful lines. He gave his building the quiet that men seek in forest and field.

* * * * * *

Armstrong's Corkoustic — strong, resilient panels of cork — applied directly to walls and ceilings, absorbs sound. Echoes and reverberations and other air-borne sounds that abound in offices, schools, hospitals, auditoriums, are hushed.

Corkoustic has interesting decorative possibilities, too. Wherever the effect desired is one of dignity—directors' rooms, for instance—we suggest the natural brown panels. The design is limited only by your ingenuity. Colors and unusual patterns, if desired, are quickly applied with cold-water paints and stencils.

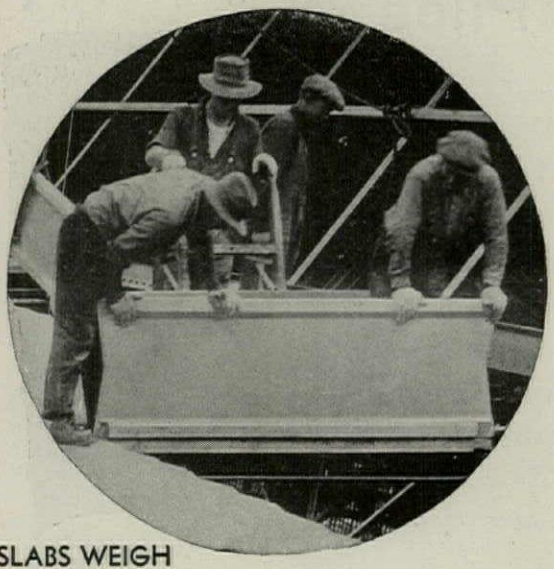
Armstrong's Corkoustic also functions as an efficient heat insulator. The pure cork prevents the transmission of heat through walls and ceilings. Comfortable temperatures are easier to maintain. Fuel bills are lower, too. For further facts about Corkoustic, send for the book, "Acoustical Correction." If you have a special problem our engineers will be pleased to consult with you. Armstrong Cork and Insulation Company, 902 Concord St., Lancaster, Penna.

Armstrong's (A) *Product*

Armstrong's CORKOUSTIC

for the acoustical treatment of all buildings

Featherweight Concrete
INSULATING ROOF SLABS

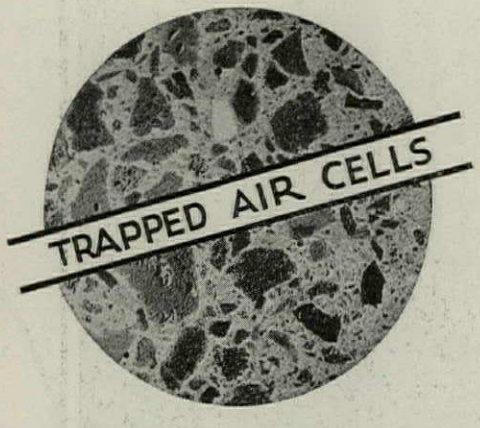


SLABS WEIGH AS LOW AS

10

LBS. PER SQ. FT.

....Go on the SAME LIGHT STEEL FRAME that carries other roofs



Haydite aggregate with its millions of trapped air cells is used in place of sand, to make Featherweight Concrete. Haydite is burned shale — vitrified, impervious and strong.

Concrete has always provided the highest type of roof-deck available. In true permanence, fire-safety and freedom from maintenance, it has never been equaled.

Featherweight concrete goes a step further —it adds to these values a new ***light weight*** (as low as 10 lbs. per sq. ft.) and an ***insulating*** value, also new to concrete.

That the resulting economies are vital, is thoroughly proven by Featherweight's acceptance for the buildings of leading industrials, railroads and utilities, as well as for fine public buildings. Millions of square feet are in use. "Catalog and Roof Standards" on request.

Made, Laid and Guaranteed by

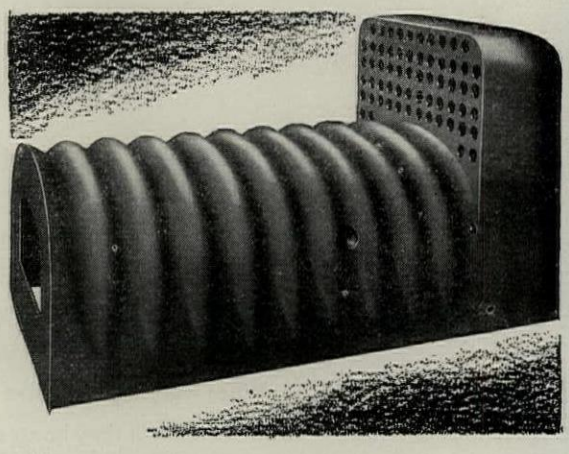
FEDERAL CEMENT TILE COMPANY

608 South Dearborn Street Chicago

FOR OVER A QUARTER CENTURY

KEWANEE

Type "C" Electric-Weld STEEL BOILER

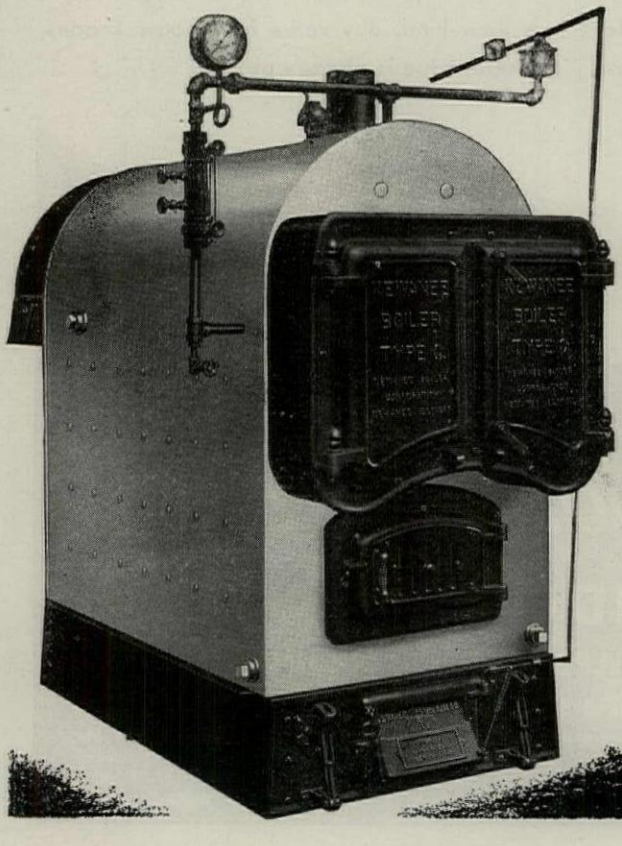


With sixty years experience building steel heating boilers Kewanee has developed the most complete line; to carry every size radiation load; in any kind of building operation.

The Kewanee Type "C" helps to round out that line. There is a clearly defined demand it fits to perfection.

For Coal (Hand or Stoker fired), Oil or Gas. A change from one fuel to another presents no complications.

The Crown Sheet is Corrugated and "Right-Side-Up"



The corrugated Crown Sheet provides a greater area of heating surface *directly in contact with the most intense heat in the firebox.* This insures more complete absorption of the heat by the water in the boiler, and very quick steaming.

The corrugations also add strength and take care of expansion and contraction due to variations of temperatures in the firebox.

Being "Right-Side-Up" there are no pockets in which soot, mud or sediment can collect—such residue naturally falling to the bottom where it is easily washed out. This design also adds height to the combustion chamber—an essential of complete fuel-saving fuel burning.

Tapped for Excelso Water Heater.
Catalog No. 84 has all the details.

KEWANEE BOILER CORPORATION

division of American Radiator and Standard Sanitary Corporation
KEWANEE, ILLINOIS *Branches in Principal Cities*
MEMBER OF STEEL HEATING BOILER INSTITUTE

I'm Failure

If you have had even a little to do with plumbing installations, especially in public and semi-public buildings, you know these ignoble three.

Their method of attack is simple. They wait until they can take advantage of human carelessness, human failings or defects and faults in the installation.

The Clow Soldier of Sanitation is your most logical ally in your constant battle against these three.

It is his job to design and construct for public and semi-public buildings as well as dwellings, plumbing fixtures that will compensate for carelessness, human failings and human uncleanliness.

I'm Short Life

To gain his end the Clow Soldier of Sanitation has developed the most complete line of specialized fixtures in the world, with particular types and designs to meet every conceivable condition in schools, hospitals, industrial plants and similar public buildings.

He has developed manufacturing safeguards to an unheard-of degree, actually putting each fixture through tests, based upon what it will meet on the job, before shipment.

I'm Insanitation

And at his fingertips are 52 years of experience in working out the most acute and most difficult plumbing problems.

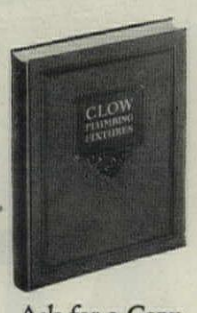
He is your ally against plumbing *Failure* and its resulting repair costs—against *Short Life* and the resulting high replacement costs—against *Insanitation* and its hideous dangers. Call him in.

CLOW

CHICAGO

PREFERRED FOR EXACTING PLUMBING SINCE 1878

Consult your architect



Ask for a Copy

Clow has specialized catalogs detailing special fixtures for schools, hospitals, industrial plants and similar public and semi-public buildings. Because these lines are so unusually complete you will be interested in the book. Ask for a copy today.

Modern Store Front Design <<

Possible Only with Quality Construction

A modern commercial building in Chicago, with store fronts of Brasco Monel Metal Construction. Archts: Leichenko & Esser, Chicago. Illustration at the bottom shows the details of this latest advance in store front design.

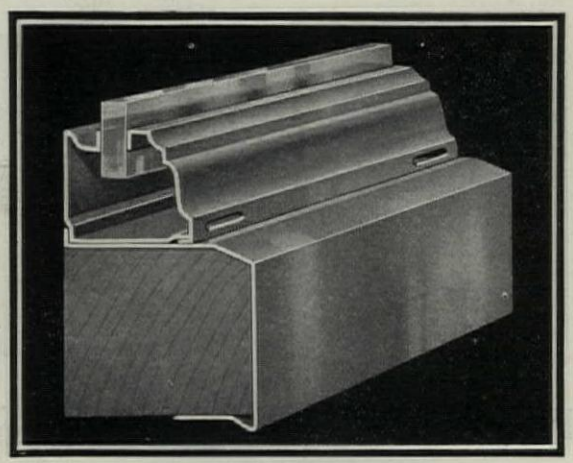
MORE than ever, the fine, the distinguished, the substantial, comes into its own. Today's technique demands its proper mediums of expression—new metals, construction advantages, architectural beauty.

Brasco, in step with the times, contributes to this era, new ideas, new effects, new and greater possibilities for modern store front architecture.

Monel Metal, with its lustrous, silvery, rust-proof charm—rich Davis *Solid* Bronze or Extruded Aluminum—distinctive constructions in copper or bronze—all engineered for strength, safety, beauty, economy.

Samples are available, clearly marked with the gauge of each member, for actual comparison on a quality basis. Full sized details also on request.

Another quality store front designed in the modern mode. This one is of Brasco Polished Bronze Construction, attractive, inviting, yet moderate in price.



Brasco 606 Sash in Monel Metal. Illustration shows the self-supporting type used in conjunction with sill 640. Gauge of sash face and back members .040"; of sill, .031". All attaching screws also of Monel Metal.

Brasco

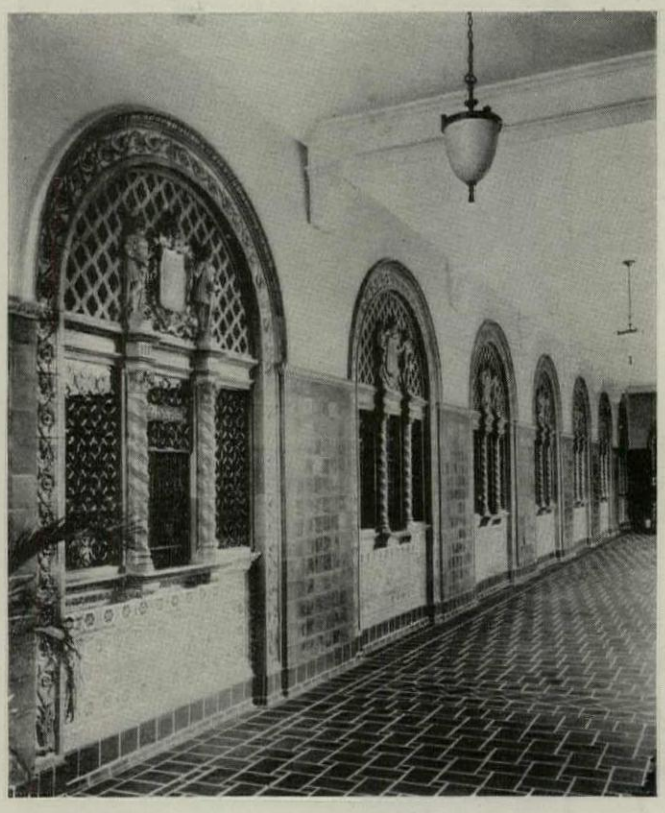
STORE FRONTS

BRASCO MANUFACTURING COMPANY
HARVEY (Chicago Suburb), ILLINOIS
NEW YORK : : : : : : : PHILADELPHIA
Distributors Everywhere

Brasco Store Fronts may be obtained in Monel Metal - Bronze - Copper - PermaWite - Davis Solid Bronze

FEDERAL SEABOARD TERRA COTTA

THE UNITED STATES CUSTOMS HOUSE
San Juan, Porto Rico
Albert B. Nichols . . *Architect*
J. C. Besosa . . . . . *Builder*



NO known material is better adapted to Spanish architecture than terra cotta. This applies to its interior as well as exterior use. Of the two illustrations of the United States Customs House at San Juan, Porto Rico, the one at the top shows Federal Seaboard Terra Cotta in full polychrome as an exterior material. Below, an interior of the same building, the pierced terra cotta grilles and delicate tracery again reflect the architecture of Spain. In all parts of this country and in many other parts of the world there is a constantly growing list of important buildings in which Federal Seaboard Terra Cotta supplies the color and form with the maximum of economy.

FEDERAL SEABOARD TERRA COTTA CORPORATION

ARCHITECTURAL
TERRA COTTA
MANUFACTURERS

F S T C

OFFICES
10 EAST 40th STREET
NEW YORK CITY
TELEPHONE ASHLAND 1220

FACTORIES: PERTH AMBOY, N. J. • WOODBRIDGE, N. J. • SOUTH AMBOY, N. J.

New Ventilating revolutionizes school

millions of dollars will be saved in fuel, maintenance and lowered building costs

OUT of many years of study, research, and practical experience in the field of school ventilation a new science has evolved which is the basis of a new ventilation art.

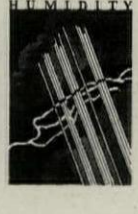
This art in many ways is contrary to past practice.

Most present and past practice has been based on the assumption that harmful and injurious effects resulted from the inhalation of respirated air. Therefore the object of most ventilation systems was to continuously flood the room with outdoor air in order to dissipate the so-called "crowd poison."

Scientists of today however, as a result of observation and practical experimentation, assert that the theory of outdoor air being the vital requirement of ventilation is unsound. They maintain that the indoor conditions essential to health, comfort and alertness are: 1. Atmospheric activity. 2. Relative humidity. 3. Control of room temperature.

The acceptance of these facts provides a basis for the new Herman Nelson System of Ventilation. This system provides to a nicety the requirements that science now prescribes. With this system instead of introducing a fixed amount of outdoor air into a room, out-of-door air is admitted only when required to control temperature and dissipate odors.

With the Herman Nelson System, proper indoor atmospheric conditions may be maintained automatically through proper



air motion, humidity limitations, and temperature control. Such outdoor air as may be required for the removal of excess body heat and odors is tempered to

The HERMAN NELSON

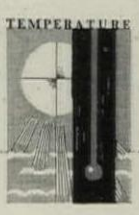
BELFAST, ME.	BUFFALO	BALTIMORE, MD.	CHICAGO	NASHVILLE	TULSA, OKLA.	LOS ANGELES
PORTLAND, ME.	PHILADELPHIA	CHARLOTTE, N. C.	PEORIA, ILL.	CHATTANOOGA	DENVER	VANCOUVER
BOSTON	SCRANTON	GRAND RAPIDS	DES MOINES	NEW ORLEANS	SALT LAKE CITY	TORONTO
SPRINGFIELD, MASS.	WILKES-BARRE	SAGINAW, MICH.	MILWAUKEE	MIAMI	BUTTE, MONT.	WINNIPEG, MAN.
PROVIDENCE, R. I.	HARRISBURG	DETROIT	GREEN BAY	MEMPHIS	SPOKANE	CALGARY
NEW YORK CITY	PITTSBURGH	CLEVELAND	MINNEAPOLIS	DALLAS	PORTLAND, ORE.	LONDON
SYRACUSE	JOHNSTOWN, PA.	CINCINNATI	DULUTH	OMAHA	SEATTLE	OSLO
ALBANY	WHEELING, W. VA.	TOLEDO	ST. LOUIS	EMPORIA, KAN.	SAN FRANCISCO	MELBOURNE
ROCHESTER	WASHINGTON, D. C.	INDIANAPOLIS	BIRMINGHAM	KANSAS CITY		TOKIO, OSAKA

System— ventilation practice!

just the right degree through inner-mixture with room air—but is not preheated.

It is estimated that the Herman Nelson System of Ventilation will save approximately half the fuel bill, for it is no longer necessary to heat the large volume of cold outside air, that in the past was admitted into the schoolroom during the winter months.

Further economies result in building construction through the use of smaller boilers, reduced pipe size, and through the elimination of vent flues.



The Her-Nel-Co Ventilator is the principal equipment used in the Herman Nelson System of Ventilation. This machine together with the required amount of direct radiation will amply serve the schoolroom.

The cabinet is finished in beautiful morocco enamel with bronzed fittings. The cabinet contains the Herman Nelson Wedge Core radiator for heating the room air which circulates through it—a fan motor for quietly forcing air circulation, a filter for cleansing air of dust and dirt, a steam jet humidifier and dampers either automatically or hand controlled for regulating the admission and intermixture of indoor and outdoor air.

While the Herman Nelson System of Ventilation is a new and radical departure from all previous schoolroom ventilation practices, it is based on fundamental scientific facts long recognized by leading hygienists and engineers. It is welcomed as the most practical solution of the school ventilating problem, for it is the most positive application of the laws which modern research has discovered.

Univent System of Ventilation

The Herman Nelson System of Ventilation is the logical development of the Univent System which has won universal recognition for its outstanding results. The Univent System meets in the simplest, most practical way, those conditions where a continuous supply of outdoor air is desired or specified by state code.

In a like manner the Herman Nelson System of Ventilation fulfills modern ventilation standards with added savings in heating installation and operation costs.

For further information, check coupon and send to The Herman Nelson Corporation, Moline, Illinois

CORPORATION MOLINE ILLINOIS

Makers of the *Herman Nelson System of Ventilation*, the *Univent System of Ventilation*, the *Herman Nelson Invisible Radiator*, the *Herman Nelson HiJet Heater*, and other heating and ventilating equipment.

THE HERMAN NELSON CORPORATION A-2
Moline, Illinois
Please send me without obligation, the book "School Ventilation Practice—Yesterday, Today and Tomorrow".

Name.....

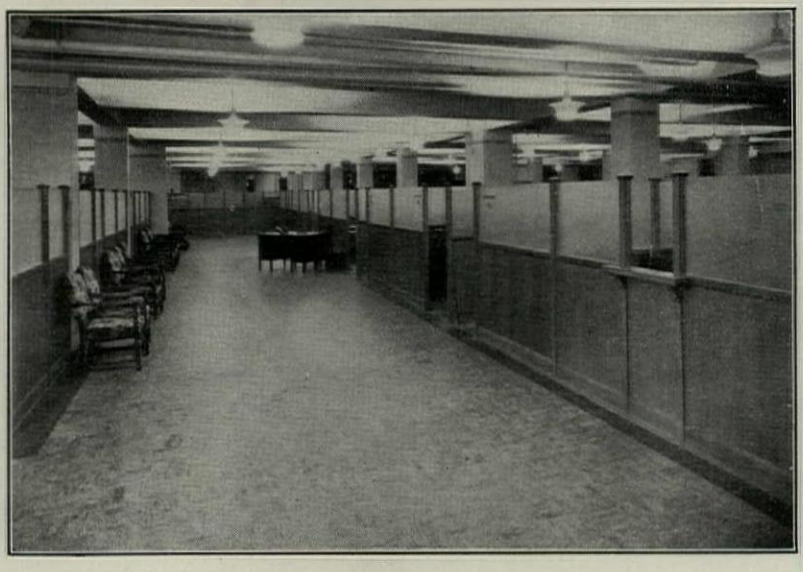
Address.....

City..... *State*.....
Position (Architect, School Superintendent, etc.)

DOUBLE-WAXED LINOLEUM *for* Los Angeles' Newest Office Building

LOWER RIGHT: *For the reception hall, where traffic is light, the architect specified W. & J. Sloane Contract Marble Tile, Jr. A green marbleized pattern with black marbleized border was selected.* ABOVE: *For the general offices, where traffic is heavier, W. & J. Sloane brown "B" Gauge Plain Linoleum was specified.*

The new Eastern Outfitting Co. Building, Los Angeles, in which W. & J. Sloane Double-Waxed Linoleum is used.



This Service Free to Architects

We maintain a service department to assist architects in planning or specifying linoleum floors. This service is at your disposal without charge. Write for copy of Architects Data Book and ask for a representative to call if you wish advice on specific problems. Address: Architects Service Department, W. & J. Sloane, 577 Fifth Avenue, New York City.

THE Eastern Outfitting Co. Building in Los Angeles adds another name to the imposing list of buildings whose floors are covered with W. & J. Sloane Linoleum.

W. & J. Sloane Linoleum is being increasingly specified for all types of buildings, not only because the distinctive patterns and colors enable the architect to create floors of real individuality but also because W. & J. Sloane Linoleum is *double-waxed at the plant.*

Double-waxing means that the linoleum can be used as soon as laid —an important consideration where immediate occupancy is desired. Double-waxing also brings out and preserves the beauty of patterns and adds to the ease of cleaning.

When you specify W. & J. Sloane Linoleum, you assure your clients of the finest money can buy. Examine this superfine finish before you write the specifications. We will gladly send you quality samples.

W. & J. SLOANE
DOUBLE-WAXED LINOLEUM

North Vestibule in the Nebraska State Capitol, Lincoln, Nebraska
Bertram G. Goodhue, *Architect*
and
Bertram G. Goodhue Associates, *Continuing Architects*

AN ACOUSTIC INSTALLATION

MASONRY VAULTED CEILING (SUPPORTING ROOF) WITH ACOUSTIC TILE SOFFIT
AND CERAMIC DECORATION IN FOURTEEN DIFFERENT COLORS AND GOLD

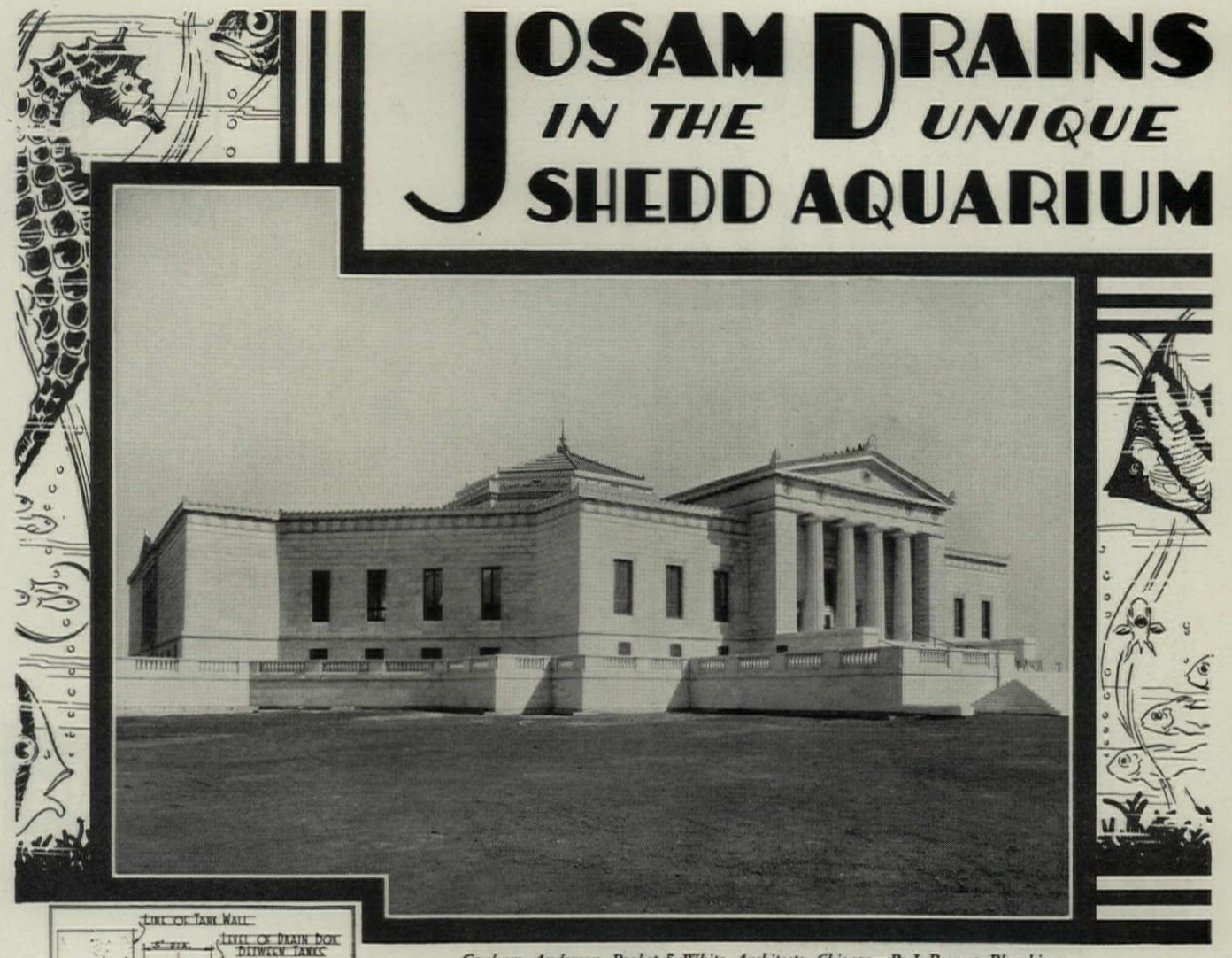
CONSTRUCTED AND MANUFACTURED BY

R. GUASTAVINO COMPANY

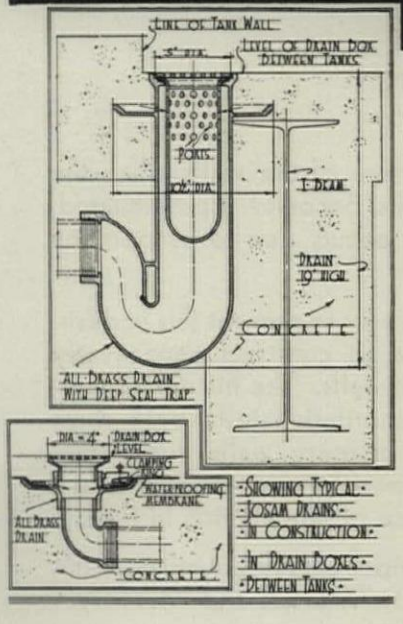
40 COURT STREET, BOSTON, MASS. 225 WEST 34th STREET, NEW YORK, N. Y.

R. GUASTAVINO CO. OF CANADA, LTD., New Birks Building, Montreal, P. Q.

JOSAM DRAINS IN THE UNIQUE SHEDD AQUARIUM



Graham, Anderson, Probst & White, Architects, Chicago—R. J. Powers, Plumbing Contractors, Chicago—R. C. Wieboldt Company, General Contractors, Chicago



THE Shedd Aquarium in Chicago, marble monument to the most comprehensive collection of aquatic life ever exhibited, presents one of the most unusual Josam drain installations. In addition to the numerous regular floor and roof drain requirements Josam engineers solved the many difficult drain, supply and overflow problems occasioned by the use of thousands of gallons of running water of varied temperatures and kinds. The result of months of study exemplified by this unique structure is a fitting tribute to diversified drain engineering.

JOSAM MANUFACTURING COMPANY
4908 Euclid Building · · Cleveland, Ohio
FACTORY: MICHIGAN CITY, INDIANA
BRANCHES IN ALL PRINCIPAL CITIES

Catalog G shows the complete Josam line: Josam Drains for Floors, Roofs, Showers, Urinals, Garages and Hospitals; Josam Swimming Pool Equipment; Josam-Marsh Grease, Plaster, Dental and Surgical, Sediment and Hair Interceptors; Josam-Graver Floor-Fed, Gas-Fired Garbage and Rubbish Incinerators; Josam Open Seat Back Water Sewer Valves; Josam Open Seat Swing Check Valves; Josam Adjustable Closet Outlet Connections and Bends, Water and Gas-Tight.

See our Catalog in Sweets

Josam TRADE MARK REG. PRODUCTS STANDARD OF AMERICA

JOSAM PRODUCTS ARE SOLD BY ALL PLUMBING & HEATING SUPPLY JOBBERS

THERE ARE NO SUBSTITUTES FOR JOSAM PRODUCTS

Rely on LIME -tested by time

Northern Life Insurance Company Tower, Seattle, Washington . . . An outstanding example of present-day architecture . . Lime-cement mortar changed in color from heather brown at bottom to cream tan at 27th floor, to conform to color grading of the brickwork . . . A. H. Albertson and Associates, Architects.

LIME « « For Non-Staining Masonry Walls

WHEN a combination of good architectural design, high-grade workmanship and the use of first-class building materials produces such beautiful and outstanding structures as the Northern Life Tower, illustrated above, why run the risk of obtaining results which are not pleasing?

Many similar structures are marred by the presence of staining or efflorescence on the exterior masonry walls. Efflorescence is caused by certain soluble salts present in masonry units and mortar materials, which salts are carried to the surface by rain water entering through leaky walls. It becomes noticeable as a white scum which forms on the exterior surface of the walls when the solution of the salts becomes supersaturated, and crystallization occurs due to evaporation of the water.

The best and surest way to prevent this undesirable appearance is to construct permanently waterproof building walls. The history of mortars, and recent authoritative tests, both show conclusively that masonry walls sufficiently waterproof to prevent efflorescence are obtained only through the use of mortars rich in lime.

Full details on this important subject will be found in our new booklet, "Mortars and Masonry." Write for your copy.

NATIONAL LIME ASSOCIATION

An organization of leading lime manufacturers formed to encourage a better appreciation of the economic value of lime in all its uses.

141-A

717 CARRY BUILDING « WASHINGTON, D.C.

"KOHLER FIXTURES increase confidence of prospective purchasers . . . win instantaneous approval!"

A BUYER'S market existed in Iowa. A surplus of homes made new building risky. The Ferguson Realty Company, progressive builders of Des Moines, undertook a survey of the housing situation, and decided to beat competition solely with better construction. Hardware, tilework, lighting, trim and decoration were of the highest quality. *And Kohler installations throughout, in color!* . . . Ninety-seven lots sold. Fifty-seven with built-to-order homes!

"The results were very gratifying," writes Oscar L. Powell, member of the firm. "Kohler plumbing fixtures met with instantaneous approval of prospective buyers, and speeded up rentals. *We are firm in the belief that Kohler fixtures increase confidence of prospective purchasers, and add a margin of safety to speculative projects.*

"During the last five years we have used Kohler fixtures exclusively, installing them on over 350 jobs, and we have never had a defective fixture, or any complaint of any kind to make. That is truly a remarkable record, and evidence of the high standards and uniformity of manufacture of the Kohler Co. . . . We prefer Kohler's pastel colors, which can be easily taken into a harmonious color scheme without increased work or worry.

"Last, but not least, we have found Kohler representatives capable to lend sound advice and ever ready to co-operate!"

Satisfaction with the bathroom usually means satisfaction with the rest of the house. Graceful in design, pleasing in color, soundly constructed, the quality of these fixtures goes straight through to all the hidden particulars that mean efficiency, safety, permanence. Remember that Kohler fixtures deserve Kohler fittings. . . . Kohler Co. *Founded* 1873. Kohler, Wis.—*Shipping Point,* Sheboygan, Wis.—*Branches in principal cities.* . . . Look for the Kohler trade-mark on each fixture and fitting.

All-Kohler color installations on the operation of the J. C. Ferguson Realty Co., Des Moines, Ia., owners and builders. Guy McDowell, Des Moines, architect. Landis Plumbing Co., Des Moines plumbers. Beckman Bros., Des Moines, jobbers.

VICEROY *bath.* STANDISH *vitreous china lavatory.* PENRYN *closet with* TAUNTON *seat. Fittings in the distinguished Octachrome pattern, chromium plated.*

KOHLER OF KOHLER

PLUMBING FIXTURES

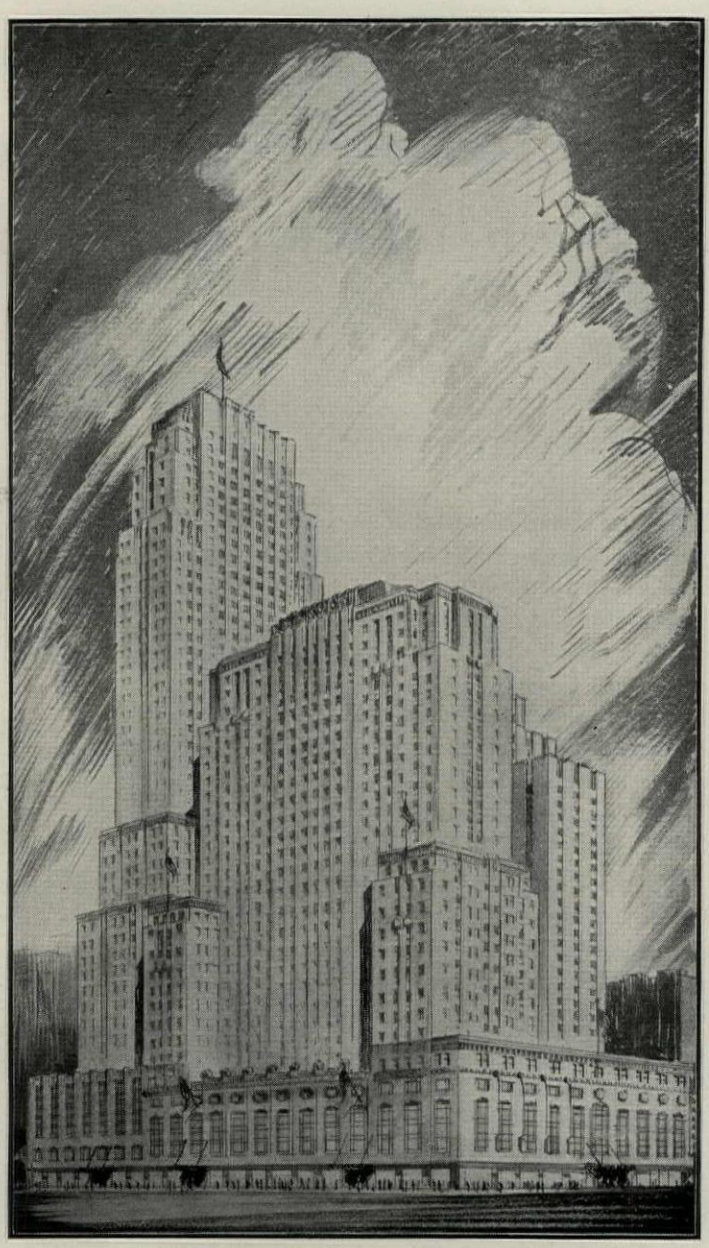
A MONUMENT TO MODERN METHODS

IN Cincinnati, on a lot that originally sold for eight dollars, a fourteen million dollar structure is rearing its 47 stories upward toward the clouds.

Embodying every advance of architectural and engineering science, this magnificent building will stand as a monument to the modern progress of America.

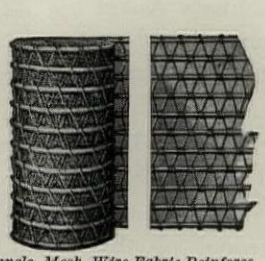
Playing an important part in this progress—enabling the successful development of plans—is American Steel & Wire Company Wire Fabric (the steel backbone of concrete).

Recognized as the most efficient and economical means of concrete reinforcement, this product is in general use throughout the nation. An evidence of interest on your part will bring detailed information and literature.

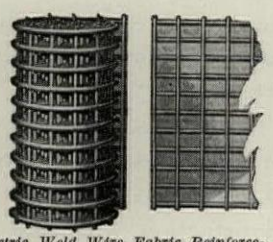


The Carew Tower, Cincinnati, Ohio—Walter Ahlschlager, Architect, Chicago—Delano & Aldrich, Associate Architects, New York—Starrett Building Co., Contractors, Chicago—Lieberman & Hein, Consulting Engineers, Chicago

Wire Fabric being laid on floors of Carew Tower



Triangle Mesh Wire Fabric Reinforcement. Furnished in rolls or sheets.



Electric Weld Wire Fabric Reinforcement. Furnished in rolls or sheets.

AMERICAN STEEL & WIRE COMPANY

SUBSIDIARY UNITED STATES STEEL CORPORATION

208 S. La Salle Street, Chicago

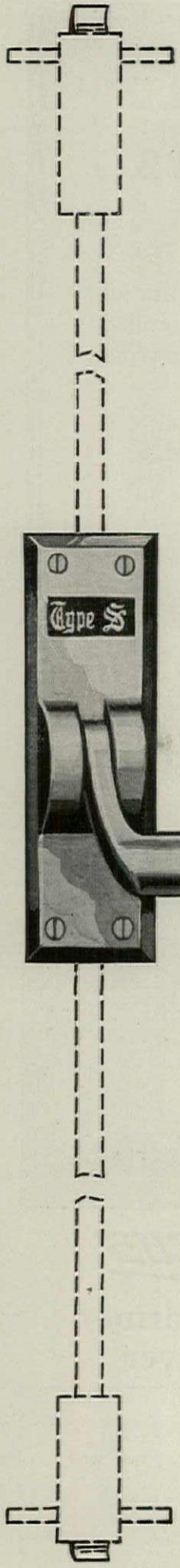
Other Sales Offices: Atlanta Baltimore Birmingham Denver Detroit Kansas City Memphis Milwaukee Pittsburgh Salt Lake City St. Louis

Pacific Coast Distributors: Columbia Steel Company, San Francisco Los Angeles Portland Seattle Honolulu

30 Church Street, New York

Boston Buffalo Cincinnati Cleveland Dallas Minneapolis-St. Paul Oklahoma City Philadelphia Wilkes-Barre Worcester

Export Distributors: United States Steel Products Co., 30 Church St., New York City



Von Duprin

Self-Releasing Fire and Panic Exit Latches

Spending Money To Save It

When you put Von Duprin latches on a building, you spend a few dollars to save many.

Costing somewhat more in the beginning, the new series Von Duprins are so carefully made, so strong and so dependable that maintenance costs are negligible, even after many years of hard service. The higher first cost provides a definite saving in the end cost.

For your protection, we urge that you specify Von Duprins separately from the finishing hardware—and that you specify them by name. Thus you foster clean competition, since all reputable dealers can buy these devices at the same fair prices.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.

Listed as Standard by Underwriters Laboratories

FOR COLD-WEATHER MASONRY

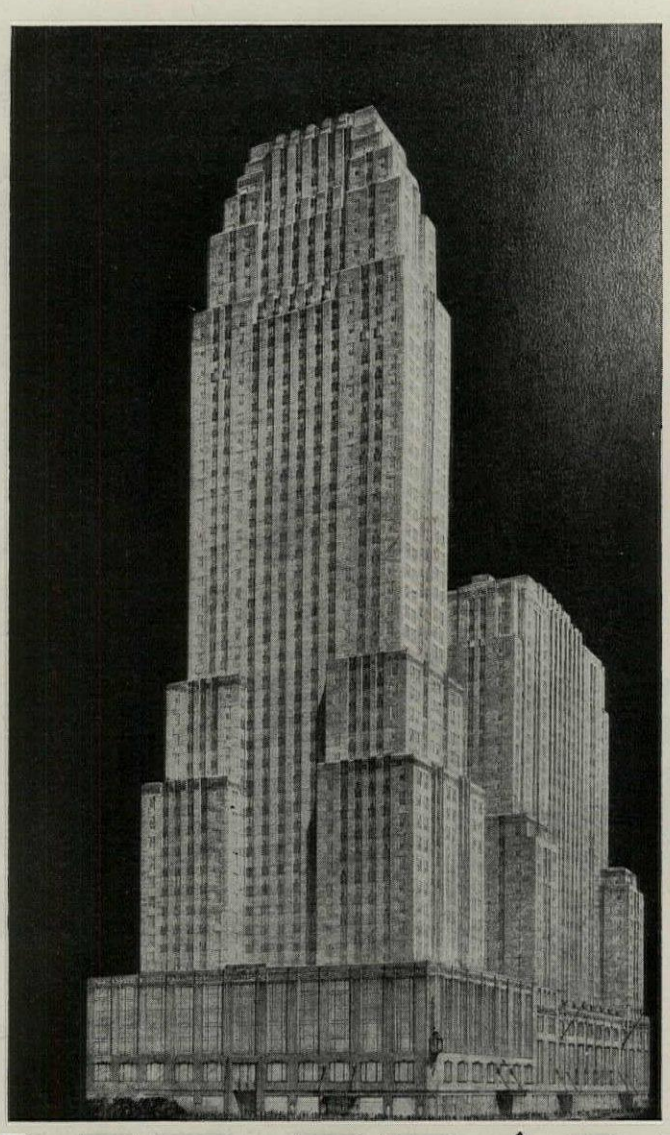
BRIXMENT mortar is used regularly for mid-winter masonry even in the severest northern climates.

In fact, during the winter months more Brixment is sold in proportion to the volume of building construction *than at any other time.* Louisville Cement Company, Incorporated, Louisville, Kentucky.

CEMENT MANUFACTURERS SINCE 1830

BRIXMENT

for MASONRY and STUCCO



And again CARNEGIE BEAMS are selected for important Cincinnati project

CAREW TOWER DEVELOPMENT
CINCINNATI, OHIO

Walter W. Ahlschlager, *Architect*
Delano & Aldrich, *Assoc. Arch'ts*
Lieberman & Hein, *Struct. Eng'rs*
American Bridge Co., *Fabricators*
Starrett Bldg. Co., *Gen'l Cont'rs*

Under construction in Cincinnati is the magnificent Carew Tower Development, combining under one roof an office building, hotel, garage and department store. The selection of Carnegie Beams to form the steel framework of this important structure is another splendid tribute to these popular sections.

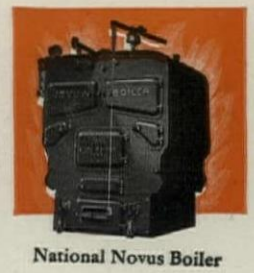
Carnegie Beams merit the investigation of anyone interested in efficient and economical construction. Their advantages are not limited to major building operations, but apply to any type of construction involving the use of structural steel, regardless of size or type of architecture. Our engineers are always at your service.

CARNEGIE STEEL COMPANY · PITTSBURGH

Subsidiary of United States Steel Corporation

THERE'S A NATIONAL HEATING SYSTEM FOR EVERY BUILDING NEED

Cutaway view National Jacketed Square Boiler No. 4-S-7. One of 118 types and sizes.



National Novus Boiler

National Bonded Jacketed Square Boilers

Through the Arch to Efficiency

Through the hottest part of the flames the arched crown-sheet curves, providing an abundance of the prime heating surface essential to prime heating results. The flaming gases are drawn to the rear of the boiler—rise up into the two side flues—swirl along the long path to the front of the boiler—then swing back through the central flue to the smoke outlet. Every inch of the exceptionally long fire travel decreases fuel consumption, increases efficiency.

This boiler is designed to perform efficiently with all leading types of fuel; coal, coke, oil and gas. It can be converted on the ground to meet the individual requirements of the fuel selected. Engineering design scientifically coordinates every part to produce economical combustion and thoroughly satisfactory heating. The National Boiler Bond, furnished with each boiler, not only guarantees workmanship, materials, and design, BUT MOST IMPORTANT OF ALL SPECIFIES AND GUARANTEES BOILER PERFORMANCE.

Complete and helpful information gladly furnished. Just write.

National Low Water Line Boiler

National Super-Smokeless Boiler

NATIONAL RADIATOR CORPORATION
JOHNSTOWN, PENNSYLVANIA

NATIONAL
Made-to-Measure
HEATING SYSTEMS

Good Taste and Sound Economy specified Oak Flooring here

WHICH MATERIAL can take the year-in, year-out beating that faces all apartment-hotel floors? . . . Which will come within a reasonable figure for the original installation cost? . . . Which will call for a minimum of trouble and expense for future up-keep? . . . Which will satisfy the style preferences of hundreds of tenants' wives, each with her own opinions on interior decoration?

OAK was the answer in each case when these problems faced the architect in specifying flooring for the Walnut Park Plaza. And it was the soundest choice from every point of view.

For Oak Flooring has proved itself the most congenial background for any style of furniture, whether it be in the Colonial, English, French, or any other manner. Centuries of building experience have rightly made Oak Flooring a symbol for sound construction, and it has proved itself most economical both in original cost and up-keep. In fact, if faithfully waxed, when necessary, oak floors need never be refinished. Waxing is the simplest and the most effective care that can be given them and their beauty will become greater with the years.

Doubtless you are often meeting such specification problems as those of the architects for the Walnut Park Plaza. If our engineering staff can be of any service we shall be pleased to co-operate with you in every way. . . . Oak Flooring Manufacturers Association of the United States, 1887 Sterick Building, Memphis, Tennessee.

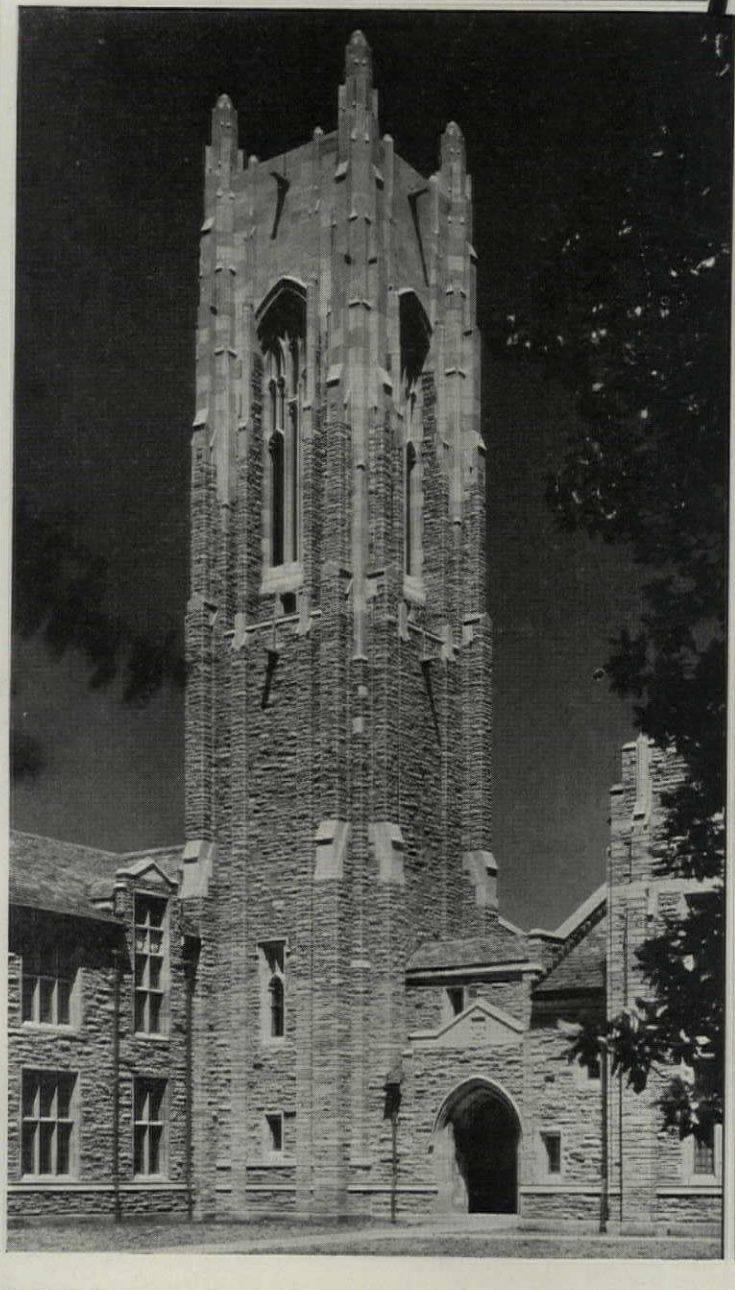
An interesting corner of a breakfast room in one of the apartments

In this fine new Philadelphia apartment-hotel the suites are decorated in almost every period and style. And yet Oak Flooring has proved congenial with them all.
Photographs by courtesy of Walnut Park Plaza, Philadelphia.

THIS MASTER TRADE-MARK *is stamped on the under side of all Oak Flooring produced by members of the Oak Flooring Manufacturers Association of the United States. It is complete protection for you. Every piece is air-seasoned and kiln-dried, then milled, and thoroughly inspected and accurately graded, insuring high quality.*

OAK FLOORING advertising is being continued on an increased scale during 1930. Look for our advertisements in *House & Garden, House Beautiful, Good Housekeeping, Better Homes and Gardens, The Literary Digest, Ladies' Home Journal* and *Small Home.*

Crab Orchard QUARTZITE; NATURE'S MOST BEAUTIFUL MATERIAL . .



SCARRITT TOWER

Rising from the central building of the Scarritt College group located at Nashville, Tennessee. Built of Crab Orchard rubble.

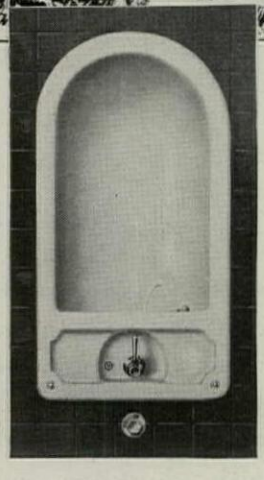
Architect . . . . . Henry C. Hibbs
Contractors . Rock City Construction Co.
Nashville, Tennessee

- **Rich color harmonies**
- **Wears better than marble**
- **Everlasting as granite**

Crab Orchard Quartzite brings a charming new color note to modern architecture. It also has that fine grain and impervious density which renders it as durable as the ages to come. Truly nature's supreme gift, a building stone of great color variety, pleasing texture and unquestioned permanence. This Quartzite lies in separate strata 3/8" to 15" in thickness. The thicker material is quarried into dimension stone and Rubble and remarkably fine Roofing, Flagging, Treads, Coping, Stepping Stones and such building accessories are obtained from the thinner ledges. Furnished from our five quarries promptly in any dimension up to transportation limits. . . . . Write for complete details.

CRAB ORCHARD STONE COMPANY
INCORPORATED
JOHN OMAN, JR., PRES.
NASHVILLE TENNESSEE

Doctor's Hospital, New York
Crow, Lewis & Wick, Arch's—T. J. Byrne Co., Inc., Plbg. Contractors



No. 626

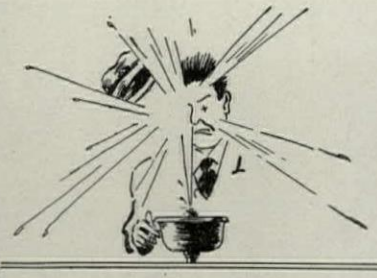
An attractive recessed Vitreous China Wall Type Fountain used in the building shown. Practical automatic stream control, two-stream projector —water always uniform in height regardless of pressure, no lips need touch or contaminate source of supply!

This NEW YORK HOSPITAL

. . . takes its place among the most modernly equipped in the country. It is only logical that, in line with the completeness of its appointments and conveniences, the architects should choose Halsey Taylor Drinking Fountains for installation throughout. • See Sweet's, or write for details of our line—plain or colored! • The Halsey W. Taylor Company, Warren, Ohio.

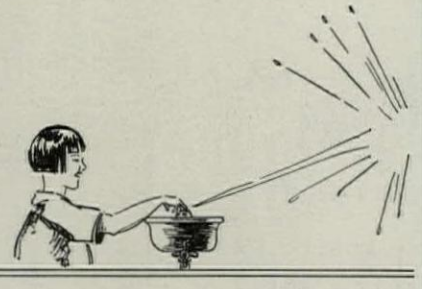
HALSEY TAYLOR
DRINKING FOUNTAINS

Did This Ever Happen to You
...or your clients?



Hey! What's the idea of hitting him in the eye—he wanted a drink, not a shower.

Well, well, where's the water? Oh, there it is, so low his lips will have to touch the jet—and that's serious—it's unsanitary.



The child, bless her heart. She likes to mess things up. You did, too, when you were her age. There goes the water squirting on the walls and the floor.

BUT—when Halsey Taylor Drinking Fountains are installed, there are none of these annoyances to you or your client,—because of practical, patented

AUTOMATIC STREAM CONTROL AND TWO STREAM PROJECTOR

▼

Another Hazard Removed

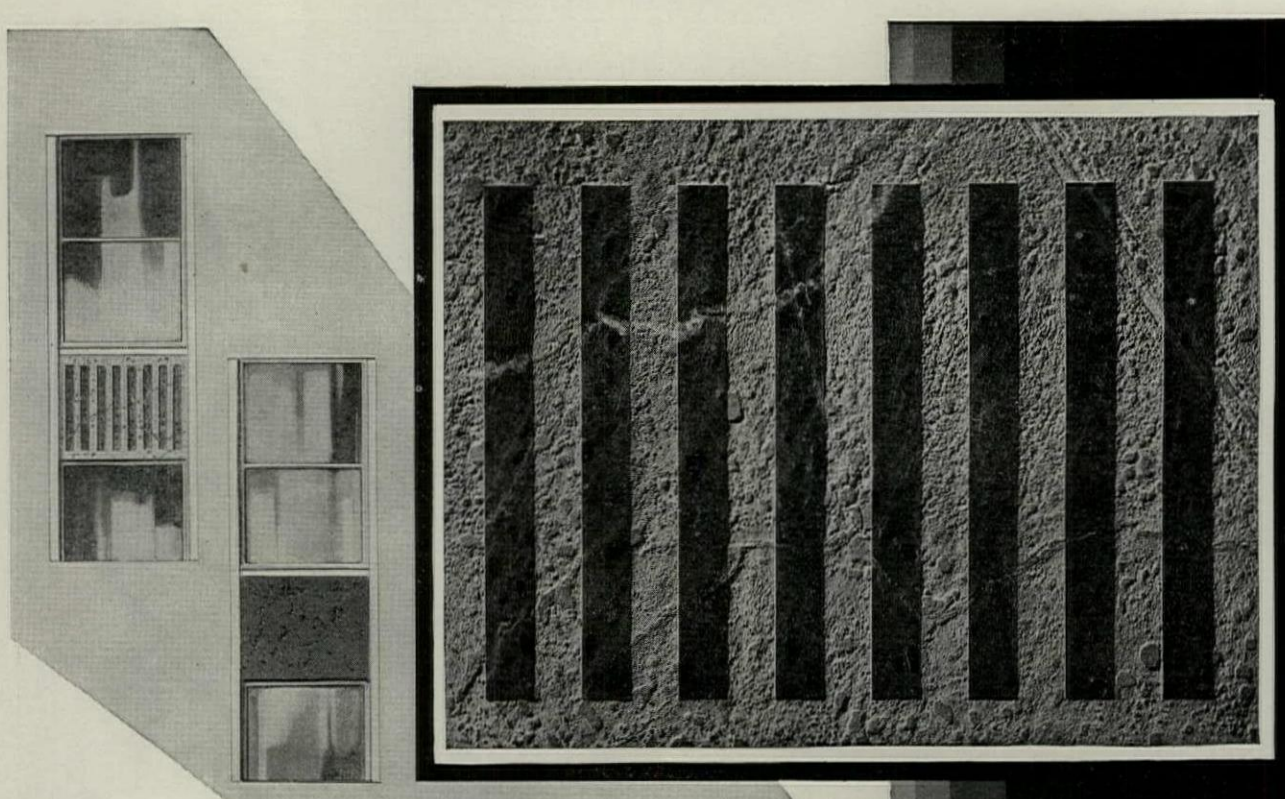
ENGINEERING SCIENCE has removed a hazard from the construction field. The making of good waterproofed concrete and mortar is no longer dependent upon men adding waterproofing to cement on the job. All chances for mistakes in using ad-mixtures are removed.

Permanent waterproofed concrete and mortar are now made by using Medusa Waterproofed Cements (White or Gray). Engineering science has developed the Medusa Process of making waterproofed cements, which consists of "grinding in" the waterproofing material with the cement clinker during manufacture. This insures a thorough and uniform distribution of waterproofing. Portland cement and waterproofing are delivered in one bag, thereby saving handling time and labor and producing permanently waterproofed concrete and mortar. ❖ ❖ Send today for the latest data entitled "How to Make Good Waterproofed Concrete," then try it on your next job.

MEDUSA PORTLAND CEMENT COMPANY
1002 ENGINEERS BUILDING CLEVELAND, OHIO

MEDUSA WATERPROOFED CEMENTS

Manufacturer of Medusa Gray Portland Cement (Plain and Waterproofed); Medusa White Portland Cement (Plain and Waterproofed); Medusa Waterproofing (Powder or Paste); Medusa Portland Cement Paint and Medusa-Mix, The Masonry Cement



Shadow Effects by sand-blasting instead of deep reveals

SAND-BLASTING of one and a half or two inch thick Alberene Stone Spandrels, makes possible shadow effects equal to those obtained with deep reveals which run up costs.

This means that without sacrificing shadows, which are an important part of good composition, the spandrel sections can be of the thinness required for economic reasons in present monumental buildings.

Full details and samples of Alberene will be gladly submitted, or perhaps you would like to receive the brochure "Architectural Alberene," showing the stone in actual color combinations with other natural stones.

Small illustrations show sand-blasted and plain spandrels for comparison.

Alberene Stone Company, 153 West 23rd Street, New York.
Branches: Boston; Chicago; Newark, N. J.; Washington, D. C.; Cleveland; Pittsburgh; Richmond; Philadelphia; Rochester. Quarries and Mills at Schuyler, Va.

ALBERENE STONE

SPANDRELS—THIN—BEAUTIFUL—ENDURING

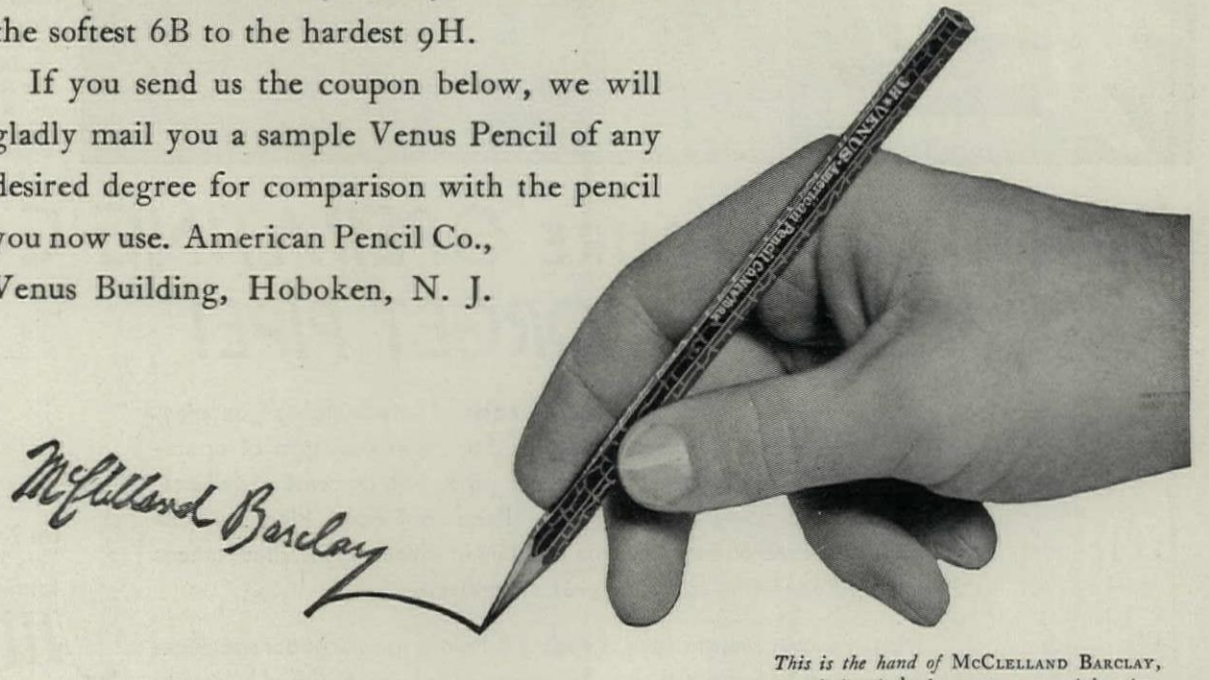
No man is "fussy" if he wants the *best pencil!*

IT'S not fussiness. To the craftsman, the pencil is a tool that is either perfect or imperfect. If it is imperfect, he will discard it.

But Venus Pencils are perfect instruments that produce smooth, even lines without effort. They are true to the degree. They are *strong!*

Uniform degrees mean a lot. Venus Pencils, in 17 shades of black, are the same whether you buy them in Rochester or Rome. You can find in this selection any tones you want—from the softest 6B to the hardest 9H.

If you send us the coupon below, we will gladly mail you a sample Venus Pencil of any desired degree for comparison with the pencil you now use. American Pencil Co., Venus Building, Hoboken, N. J.



This is the hand of McCLELLAND BARCLAY, *one of America's foremost commercial artists, whose magazine covers and "Fisher Body" illustrations have given him national prominence.*

VENUS

the pencil of 17 shades of black

(Of course you know about Unique Thin Lead Colored Pencils . . . and Venus Erasers . . . made by the makers of Venus)

AMERICAN PENCIL COMPANY, Dept. A.
Venus Building, Hoboken, N. J.

Without obligation, please send me a Venus Pencil of the following degree.....

Name.....

Address.....

City and State.....

Occupation.....

Reading 5-Point Pipe was chosen to guard the New York Post Office from the attacks of Time, That Tough Old Tester. This beautiful structure was designed by McKim, Mead & White, Architects, New York.

WHEN YOU FIGURE *OPERATING* COSTS *DON'T FORGET PIPE!*

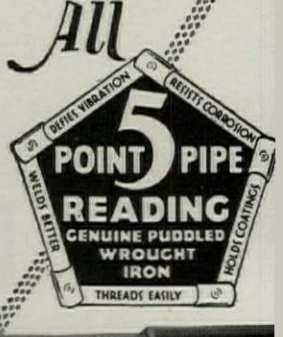
When you estimate the operating costs of any building you plan, *be sure to include pipe maintenance.* For pipe is an item of operation as surely as machinery! Inferior pipe, with its constant failures, piles up operating costs sky-high. Reading 5-Point Pipe, with its proved record of outlasting the building in which it is installed, means *lowered operating costs per year of service.*

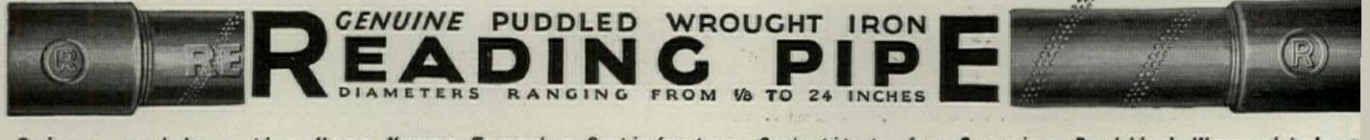
It pays to put rust-resisting, Reading 5-Point Pipe into your specifications—and to keep it there! This pipe is Genuine *Puddled* Wrought Iron, made by the original puddling process that has passed the Test of Time, that Tough Old Tester. We'll be glad to give you estimates showing how much Reading 5-Point Pipe *saves* in various types of buildings—get in touch with our nearest representative today.

READING IRON COMPANY, Reading, Pennsylvania

Use only Reading 5-Point Nipples with Reading 5-Point Pipe . . . you'll know them by the indented spiral band.

For Your Protection This Indented Spiral Forever Marks All





Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iron

THE GUARANTEED WAY TO HARDEN CEMENT FLOORS

We Guarantee Every Sonneborn Job

If our inspection shows a floor is not so greatly deteriorated that a good hardening job is still possible—If Lapidolith, the original concrete floor hardener, is used—If a Sonneborn Service Crew applies Lapidolith—We guarantee such floors to remain wearproof and dustproof for a period of years, dependent on specific conditions of use.

IN your client's behalf you are interested in getting a concrete floor hardening job that will give long and satisfactory service. A Sonneborn job will give you such service.

But unless you insist on Sonneborn doing the hardening, the chances are that low price will win the order, and at the prices which will now buy concrete floor hardening material, there can only be one result—quick and lasting dissatisfaction.

Architects who are interested in jobs that will stand up, will realize the ultimate economy and service of intrusting hardening work to Sonneborn, who guarantee every job, and stand behind their guarantee, and always make good.

The Sonneborn Method calls for the use of Lapidolith, the original concrete floor hardener, and for the correct application of Lapidolith by a Sonneborn Service Crew trained to apply Lapidolith in the right way and in the proper amount.

We are prepared to quote a price in advance direct to the architect so there can be no misunderstanding between architect and contractor about the cost of the work. We can compete on price but do so reluctantly, because we cannot give at a low price as fine a job as that which is possible at a fair price.

To get a job that will reflect credit on the architect and contractor by lasting for years, specify Lapidolith to be applied by Sonneborn under guarantee.

Some Other SONNEBORN PRODUCTS

Hydrocide No. 633
—Plaster Bond — For damp-proofing interior of exterior walls above ground.

Lignophol
For preserving and wearproofing wood floors.

Hydrocide Colorless
—For waterproofing exterior of exposed walls.

Fermo
—For accelerating the setting of concrete and densifying the mass.

Hydrocide No. 648
—Mastic and semi-mastic—For waterproofing foundation walls and footings.

Hydrocide Integral
—For waterproofing mass concrete, stucco and mortars.

L. SONNEBORN SONS, INC., Dept. 11, 114 Fifth Avenue, New York

SONNEBORN APPLIES

LAPIDOLITH
TRADE MARK

◆ ◆ ◆

SONNEBORN INSPECTS THE JOB

◆ ◆ ◆

SONNEBORN GUARANTEES THE WORK

L. SONNEBORN SONS, INC. P.P.
Dept. 11, 114 Fifth Avenue, New York
Please send me, without cost or obligation, demonstration samples and literature on:
Lignophol....; Lapidolith....; Hydrocide Colorless....; Fermo....; Hydrocide No. 633....; Hydrocide No. 648....; Hydrocide Integral....; (Check products that interest you.)

Name.....

Address.....

Company.....

Position.....

1. Seymour H. Knox residence, Aiken, S. C., Peabody, Wilson and Brown, Architects.
2. L. H. Shearman estate, Manhasset, L. I., J. W. O'Connor, Architect.
3. General Howard S. Borden residence, Rumson, N. J., George S. Chappell, Architect.
4. Thos. A. Edison Junior High School, West Orange, N. J., Guilbert & Betelle, Architects.
5. State Capitol Building, Raleigh, N. C., Atwood Nash Inc., Architects.
6. United Piece Dye Works, Lodi, New Jersey.
7. Richmond Borough Hall, St. George, S. I., Carrere and Hastings, Architects.
8. S. L. Rothafel Bronze Tablet, Roxy Theatre, New York.

What well-dressed walls will wear in 1931..

Charming New Patterns and Colors — at their Best in Beautiful WALL-TEX

THE new WALL-TEX line is an exposition of rare charm and beauty in wall coverings — a line you will commend for its refreshing individuality.

It includes richly beautiful new patterns that take their inspiration from old-world sources — stimulating modernistic designs of impressive character —a wide variety of new patterns and colors expressing today's thought in interior decoration.

And here you find that important factor — fabric texture, accenting the beauty of charming patterns and rich colorings. Wherever you see WALL-TEX it conveys the impression of true quality. Always clean — it can be kept free from spots or finger marks by wiping with a damp cloth and repeated washings will not harm it . . . Colors are non-fading . . . Conceals plaster cracks, reinforces and becomes a structural part of the wall. The enduring beauty of WALL-TEX makes the cost of fabric wall coverings surprisingly low.

Write for samples of Wall-Tex, interesting folder, "The Modern Trend in Wall Coverings," and name of your nearest distributor.

COLUMBUS COATED FABRICS CORPORATION
DEPT. A-11 COLUMBUS, OHIO

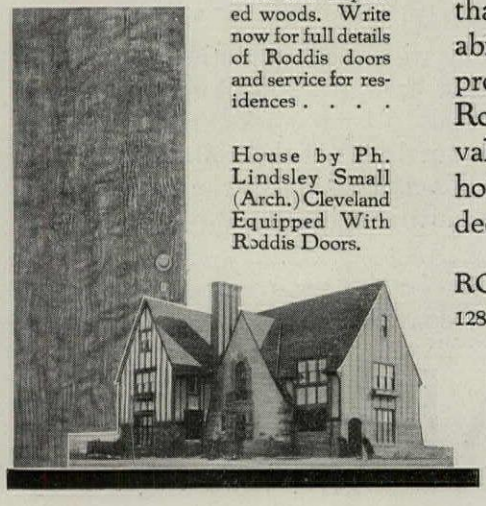
WALL-TEX

fabric wall coverings of enduring beauty

Red-White-Blue Dowel Trade Mark Is On The Edge Of Each Roddis Flush Door.

John Marshall Hotel . . . . . Richmond, Virginia
Marcellus Wright . . *Architect*
Equipped with Roddis Flush Doors: Birch and Gum, Light Pearl-Gray Enameled. . . . .

Roddis furnishes doors for residences in unusually handsome design: a wide selection of exceptional stock numbers and woods catalogued, or of special design to the architect's idea and specification, modern patterns and imported woods. Write now for full details of Roddis doors and service for residences . . . .



House by Ph. Lindsley Small (Arch.) Cleveland Equipped With Roddis Doors.

YEARS OF EXPERIENCE AND DOOR SERVICE

Roddis Flush Doors made today have twenty-five years of door making experience behind them. Roddis Flush Doors installed practically that long ago continue in service today. Thus Roddis manufacturing ability has a quarter century background as recommendation; and the product likewise has withstood the test of time and proved its merit. Roddis Flush Doors are universally preferred because of the known value secured: and agreed by architects as the most practical door for hotel and apartment buildings and residences particularly. Before you decide on doors write for and read the interesting new Roddis Catalog:

RODDIS LUMBER & VENEER CO. MARSHFIELD, WISCONSIN
128 FOURTH STREET ESTABLISHED 1890
DISTRIBUTORS IN ALL PRINCIPAL CITIES

DOORS by RODDIS

In the residence of Mr. Oscar Webber, 619 Lake Shore Drive, Detroit, Michigan, complete telephone convenience is provided by fourteen telephone outlets, including two in the garage and one on the third floor. Built-in conduit carries the wiring for the telephone system which includes intercommunicating features. LEONARD WILLEKE, Architect, *Detroit.*

Planning in advance for telephones

contributes to the greater convenience and efficiency of the modern home

ARCHITECTS today generally recognize the desirability of providing for telephone arrangements in their plans for new and remodeled residences. In this way the particular needs of each individual family can be fully met.

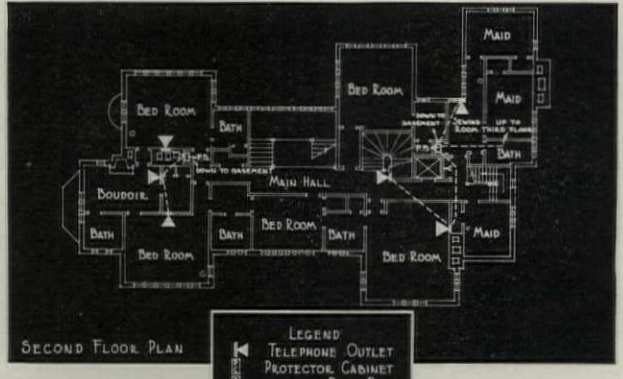
Telephone outlets are made available not only in all the important rooms, but also in particularly convenient locations in each room.

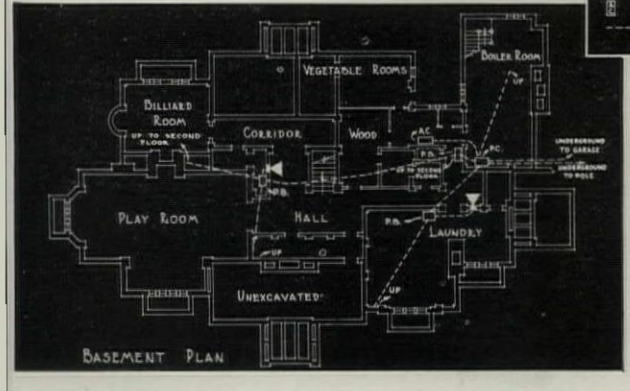
Conduit is specified within the walls and floors, furnishing telephone outlets at the locations selected. This results in improved appearance by concealing the telephone wiring, and guards against certain types of service interruptions.

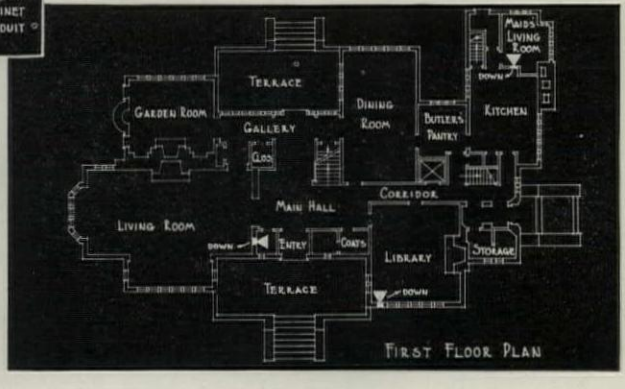
The position and number of these outlets need not necessarily be limited to immediate requirements, as it is often advisable to provide for possible rearrangement or expansion of the telephone service in the future.

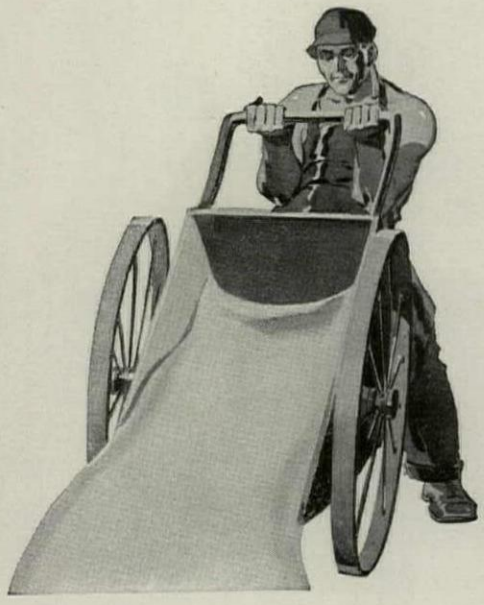
Your local Bell Company will gladly place important data about household communication at your disposal, as well as arrange for conferences between its representatives, your clients and yourself.

There is no charge. Just call the Business Office.



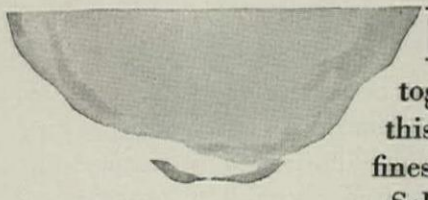






. . . SAND

from the finest pits of West Virginia for superior lighting in Selfridge's, London



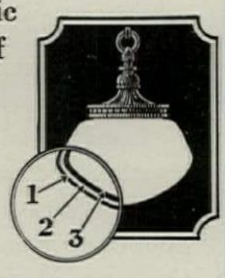
DARK sand pits . . . and brilliant Selfridge's, London . . . half across the earth . . . far, indeed, yet closely bound together. For the great Celestialite lighting globes that hang in this prominent English department store hark back to the finest sand pits of America.

Selected with extraordinary precaution is the sand ultimately destined for this famous "next-to-daylight" lighting glassware. Sharp-cut, fine as golden dust . . . sand carried over magnetic plates that draw off and sift out iron, sand washed by tons of water . . . such only is the sand that is selected for Celestialite. Thus, so familiar a substance as sand is maintained at the highest standard of quality.

This is the evidence that Celestialite is as fine as any lighting glassware obtainable. Illuminating experts and lighting engineers have recognized this. They have recommended and installed it in many of the most prominent department and chain stores.

* * *

The Celestialite installation in Selfridge's Department Store, London, England, is shown below, at the right. Write us at once for information that will secure you just as fine a lighting system. We will also send you free, a section of Celestialite, showing its distinctive three-layer construction.



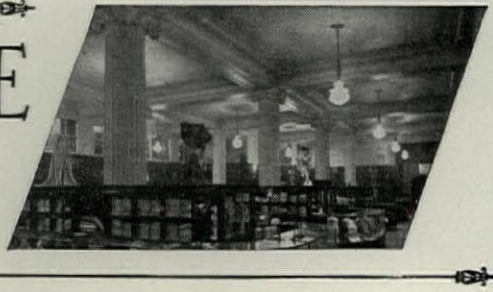
CELESTIALITE'S *three layers:*
The Reason for Its Superiority
[1] A layer of crystal clear transparency—for body and strength.
[2] A layer of white glass—to diffuse the rays and soften the light.
[3] A layer of blue glass—to whiten and perfect the light.

CELESTIALITE

(Registered and Patented)

NEXT TO DAYLIGHT

Gleason-Tiebout Glass Company, 200 Fifth Ave., New York



Bullock's-Wilshire, Los Angeles, Cal.—an original design in Armstrong's blue Jaspé and plain tan linoleum.

Create **YOUR OWN** Design in this modern, resilient floor material

MODERN shops and display rooms have found that Armstrong's Linoleum Floors serve them well in building up sales. From coast to coast, you'll find the smart, colorful patterns in this twentieth century floor material doing their share to add to the appearance and sales effectiveness of business houses.

There are more than three hundred designs of Armstrong's Linoleum to choose from—yet you need not be limited even to these standard patterns if your client wants an individualized floor—a floor that's his exclusively.

Plain colors and Jaspé shades and allover marbles can be combined to form striking floor designs of your own creation—just as the floor above was planned for the new Bullock's-Wilshire store in Los Angeles.

You can utilize ready-made figured insets (Linosets) and narrow border strips (Linostrips)—or have original insets created to your own design. The Armstrong Line of linoleum floors is versatile enough to fit practically any color scheme or decorative effect you may plan.

Protected by the Accolac Process, the surfaces of these modern linoleum floors are spot-proof and stain-proof. Easy, indeed, to wipe away spilled things with a damp cloth. And you can tell business clients that where heavy foot traffic may make frequent washing necessary (in lobbies, corridors, entrance halls), an occasional relacquering will keep the Armstrong Floors always youthful and attractive. It's really easy!

Armstrong Floors are moderate in price, too. The low cleaning costs and long wear make them available for every size and type of shop and store.

May we send full specification details and pattern colorplates? Write for our file-size specification book which contains a lot of good floor information. Also samples, if you wish. Just address Armstrong Cork Company, Floor Division, Lancaster, Pennsylvania. (We are also represented in Sweet's Architectural Catalog.)

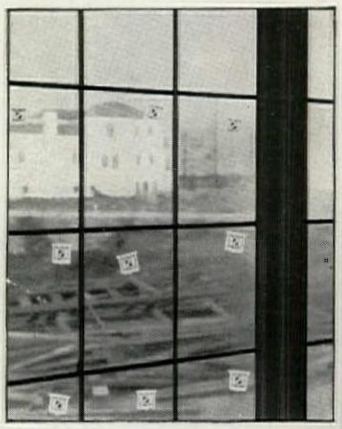
Armstrong's (A) *Product*

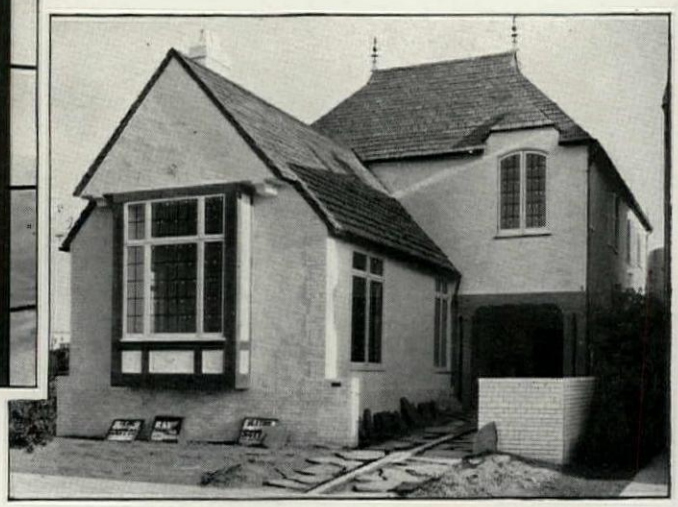
Armstrong's Linoleum Floors
for every room in the house

PLAIN · INLAID · EMBOSSED · JASPÉ · PRINTED · LINOTILE *and* ARMSTRONG'S CORK TILE

For Your Identification *and* Protection write *this phrase* into Your Specifications:

"All labels to remain on glass until final inspection by architect"





Residence under construction for Mrs. Richard Gump, San Francisco, Calif. Designed and built by S. and G. Gump. *Glazed with Libbey-Owens-Ford "A" quality glass.*

The practice of labeling each light of "A" quality glass was originated by Libbey-Owens-Ford over four years ago. It came about through the insistence of architects and builders that some definite means be made available for identifying this superior quality glass.

The familiar L-O-F label that appears on each light of Libbey-Owens-Ford "A" quality glass today signifies just what it did four years ago—that the light of glass is of a definitely higher quality; absolutely flat, clear, and possessed of a rich, brilliant lustre.

You can always make sure of getting this better glass by specifying Libbey-Owens-Ford "A" quality labeled glass—and include in your specifications *"all labels to remain on the glass until final inspection by the architect."*

LIBBEY-OWENS-FORD GLASS COMPANY
TOLEDO, OHIO

Manufacturers also of Polished Plate Glass and Shatter-Proof Safety Glass for automobiles

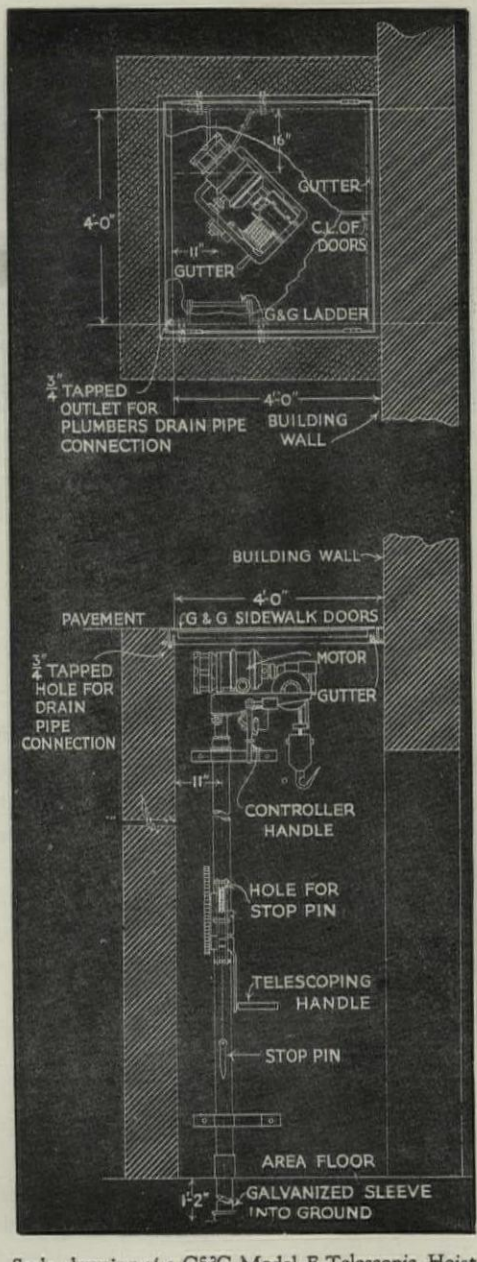
TUNE IN!
FLOYD GIBBONS L-O-F Radio Program—Sunday Evenings at 9:30 E.S.T.—WJZ and Associated N.B.C. Stations

ASH REMOVAL

the G&G ELECTRIC
REG. U.S. PAT. OFF.

Telescopic Hoist

With Automatic Stop and Gravity Lowering Device



Scale drawing of a G&G Model E Telescopic Hoist (electrically operated). Send for catalog containing scale drawings and long and short specifications of all types of G&G Ash Hoists. (¼ inch standard scale drawing above.)

Model E Electric Telescopic Hoist, one of two G&G Hoists in use at Holland Tunnel, New York—Jersey City. A. C. Davis, Mech. Engr. for the Commission.

•

296 cans raised in one Kwh.
85 round trips for one cent
227 cans handled in one Kwh.
15½ tons of ashes raised in one Kwh.
258 cans raised in one Kwh.

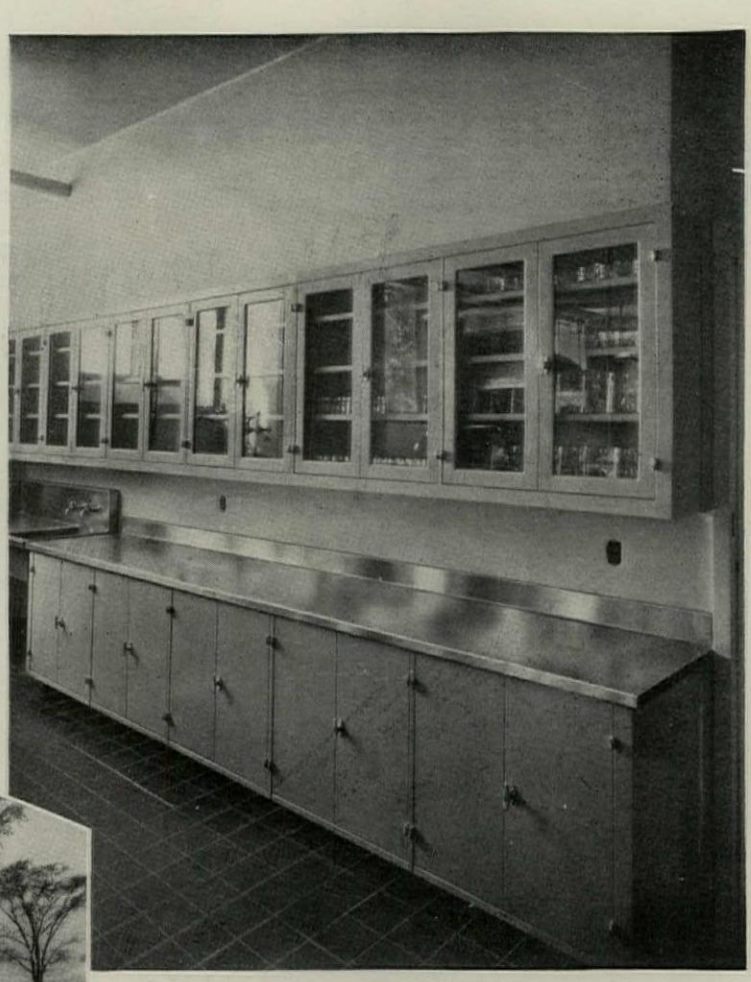
THESE are the net findings in a series of tests conducted by engineers of the Sprague Electric Works of the General Electric Co. to determine operating efficiency. Hoists tested were regular stock models at actual installations. Results differ somewhat due to differences in cost of current and distance of lift. Detailed figures of these tests are available on request. Besides using remarkably little current, there is a labor saving, for one or two men do the work of three or four. There are various G&G Telescopic Hoist models, electric or hand power, to meet all conditions. Widely specified and used in Schools, Institutions, Churches, Hospitals, Office Buildings, etc., wherever coal heating systems are provided.

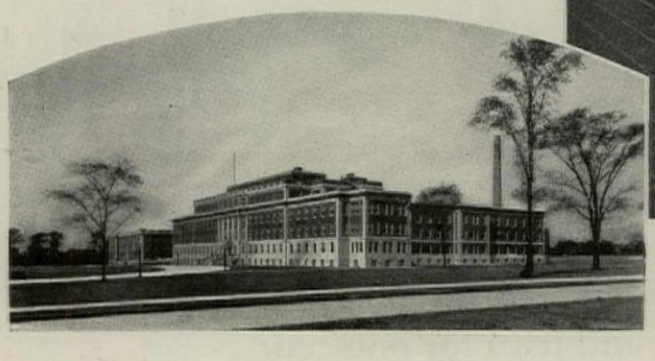
Write for illustrated catalog

GILLIS & GEOGHEGAN

548 West Broadway **New York, N. Y.**

With LESS cost for UPKEEP





Built-in cabinets installed by THE GENERAL FIREPROOFING COMPANY in the Youngstown City Hospital, Youngstown, Ohio. Several hundred of these units were equipped with Monel Metal tops, while all the dressing cabinets in private rooms have baseplates and shelves of Monel Metal. At left: Youngstown City Hospital, Architects: Albert Kahn, Detroit; Morris Scheible, Youngstown, associate.

Monel Metal keeps Cabinets looking NEW!

The fascinating story of Monel Metal—its properties and uses—is told in a new 2-reel motion picture film. Write for details of free distribution.

INCo MONEL METAL TRADE MARK

Monel Metal is a registered trade mark applied to a technically controlled nickel-copper alloy of high nickel content. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel.

HOSPITAL employees welcome the cheerful, labor-saving aid of silvery Monel Metal. Doctors and nurses like its look of crisp cleanliness—its always "at your service" appearance which is the outward sign of inherent properties exclusive to Monel Metal.

Rust-proof and resistant to corrosion by hospital solutions, Monel Metal cuts cleaning time and labor to such a low point that the saving effected helps pay back the original investment. Moreover, Monel Metal has no coating to chip, crack or wear away, and its steel-like strength guarantees years of flawless service.

To insure your client all these advantages make it a point to specify Monel Metal equipment where hard service will prevail.

Your files should contain a copy of "Modern Hospital Equipment"—a 72-page booklet dealing with the specification of food-service, clinical and laundry equipment, with a special section on built-in cabinets.

MONEL METAL

THE INTERNATIONAL NICKEL COMPANY, INC., 67 WALL STREET, NEW YORK, N. Y.

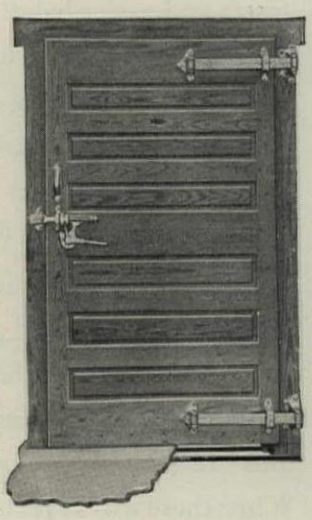
"Good doors, yes, but how much do I pay for the name?"

Mr. Architect, I'm as constitutionally opposed to paying for a name as you are. But I've found when a name in any field stands out like a skyscraper would on a village street, it is always because of the performance of the product. If you pay a little more for that product, you haven't paid for a name but for the extra value which makes the name what it is ››› I'm proud that the Jamison and Stevenson names stand out among cold storage doors. It gives me quite a "kick" to hear competitors say "as good as Jamison (or Stevenson)" because they are unconsciously admitting our superiority. But regardless of this reputation, *your client doesn't pay one cent extra for the name.* You don't have to accept my statement for this. The performance of our doors *proves* it. We *guarantee* them to outlast all others under any conditions—and they are giving better service all the way ››› Whether their price is just under, just over, or the same as any other doors you may consider, Jamison and Stevenson Doors will prove cheaper in the end. Where is there anything extra added for the name?

J. Jamison Jr.

***THE JAMISON* STANDARD COOLER DOOR WITH PATENTED FEATURES**

In a recent engineering test, this door rendered the equivalent of 85 years of service, without any appreciable effect on its protective quality or its operating parts—nothing which would prevent uninterrupted, effective service. In this test the worth of its heavier hardware—scientifically designed to withstand the severest conditions—was conclusively proved. Its design and construction are backed by years of experience. Knowing your wall insulation, we can match it in your doors. : : : : : : : *Write for Descriptive Catalog.*



Jamison & Stevenson Cold Storage Doors

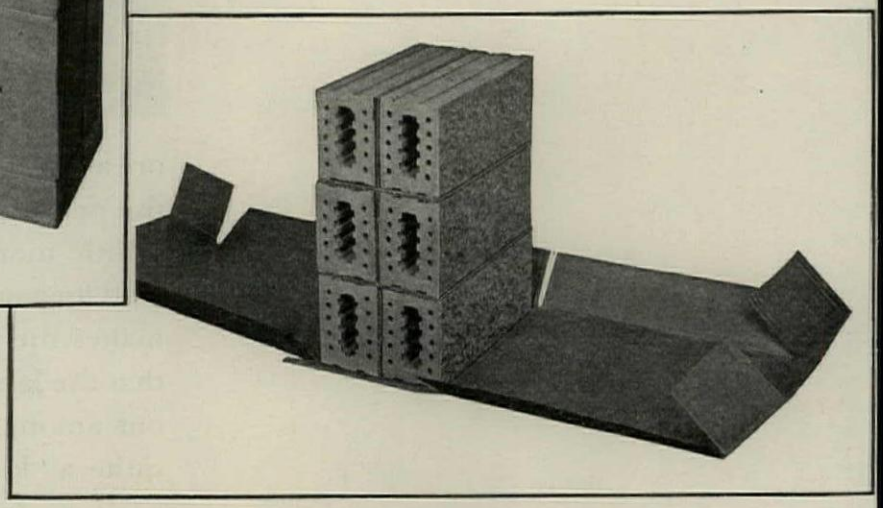
OLDEST and LARGEST makers of Cold Storage DOORS

JAMISON COLD STORAGE DOOR CO.
Consolidating Jamison Cold Storage Door Co., Inc. and Stevenson Cold Storage Door Co.
HAGERSTOWN, MARYLAND. . . . . U. S. A.
Oldest and largest makers of Cold Storage Doors in the World

. . . . . *Branch Offices:* 300 Madison Avenue, NEW YORK . . . . . Builders Bldg., 228 N. La Salle Street, CHICAGO . . . . . Samuel H. Stevenson, 116 West 24th St., CHESTER, PA. . . . . 2650 Santa Fe Avenue, LOS ANGELES...333 Market St., SAN FRANCISCO D. E. Fryer & Co., SEATTLE & SPOKANE . . Southern Representatives, address Hagerstown . . . *Foreign Agents:* Von Hamm-Young, HONOLULU . . . Armstrong Cork Co., Ltd., LONDON . . . Okura & Company, JAPAN

AR-KE-TEX Tile in Cartons

• Protection From Kiln to Wall . . .



Now Mr. Architect . . .

Here's assurance, Mr. Architect, that the beautiful AR-KE-TEX Tile you specify will be delivered on the job and on the scaffold as fresh and clean as when it left the kilns. All standard units of super-quality AR-KE-TEX Tile are packed in heavy fiber cartons with thick fiber board between each unit. Each carton is automatically sealed.

This is another forward step of Clay Products Co., Inc., of Indiana, which has always made the finest textured tile and now by the most modern packing method known, makes certain that it gets into the finished wall as specified. A step in keeping with the constant effort we are making to improve our product and service, as well as to develop new textures and create new wall effects.

Here Mr. Contractor . . .

Clay Products Company's new carton packing gives faster and easier handling in trucking from car to job; more economical moving on the job and to the scaffold to say nothing of the satisfaction in having textured tile ready to go in the wall, fresh, clean and free from any damage which might occur in handling anywhere along the line.

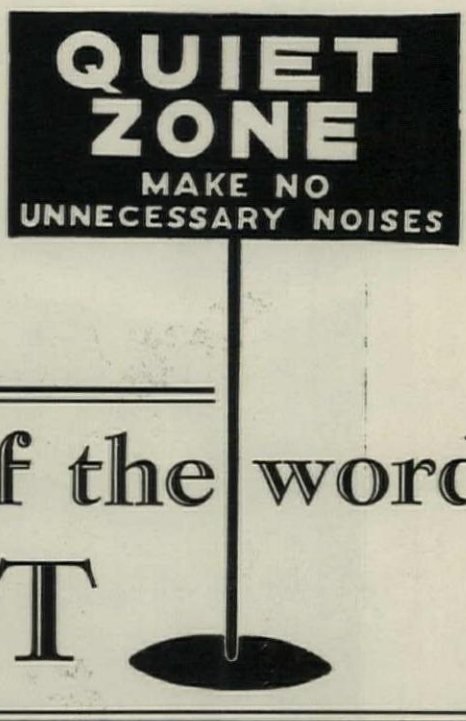
With these tough, durable cartons, there is no searching for sizes and shapes. Each carton containing from three to six standard units is plainly marked with the quality, texture and size. The cartons are securely bound with two bands of wire. When these wires are cut on the scaffold, the cartons fall open of themselves exposing the tile ready for the mason to place it in the wall.

CLAY PRODUCTS CO., Inc.
OF INDIANA

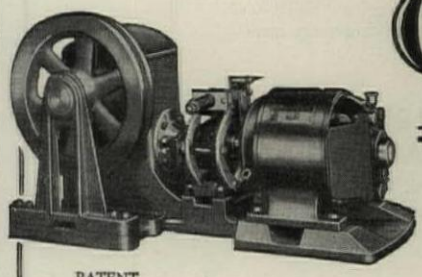
AR-KE-TEX
ART-KERAMIC-TEXTURE

FACTORIES AT
BRAZIL, INDIANA

THE STANDARD OF TEXTURED TILE



A new meaning of the word QUIET



PATENT APPLIED FOR

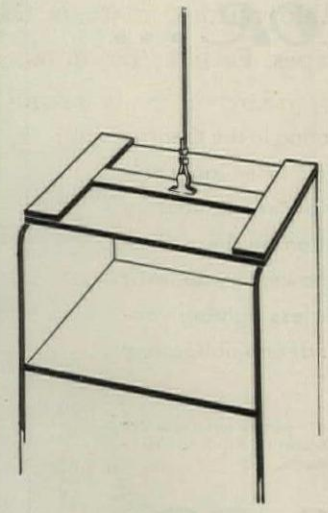
ARCHITECTS designing hospitals, schools, banks, or other types of buildings where quietness is desirable (and where isn't it?) will find in this advantage of the new Energy Electric Dumbwaiter an additionally strong reason for its use.

The reason for its silent operation is basic. Every part of the machine, controls, and car is built with a strength far beyond that which will ever be needed. The motor is "over-powered." The movement of the car is smooth as a ball on a billiard table. It is this elimination of all strain that has removed the noise—that will provide quiet, satisfying service for years to come with a minimum of attention.

From *your* standpoint it offers the advantage of flexibility—meeting any capacity up to 300 lbs. at any practical speed desired, with the machine located either overhead or at the foot of the shaft. It is push button controlled (full call and send system) from any landing.

Price? That's another advantage.

The complete description and reproductions of plan drawings offer valuable data for your files. We'll be glad to quote on any specific installation. Address Energy Elevator Company, 211 New Street, Philadelphia, Pa.

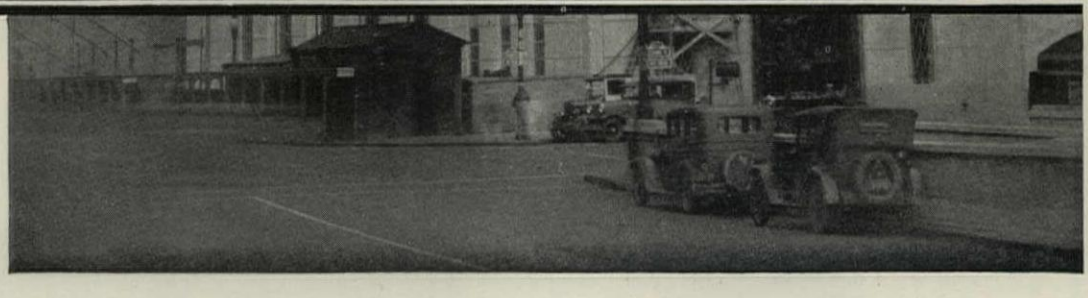


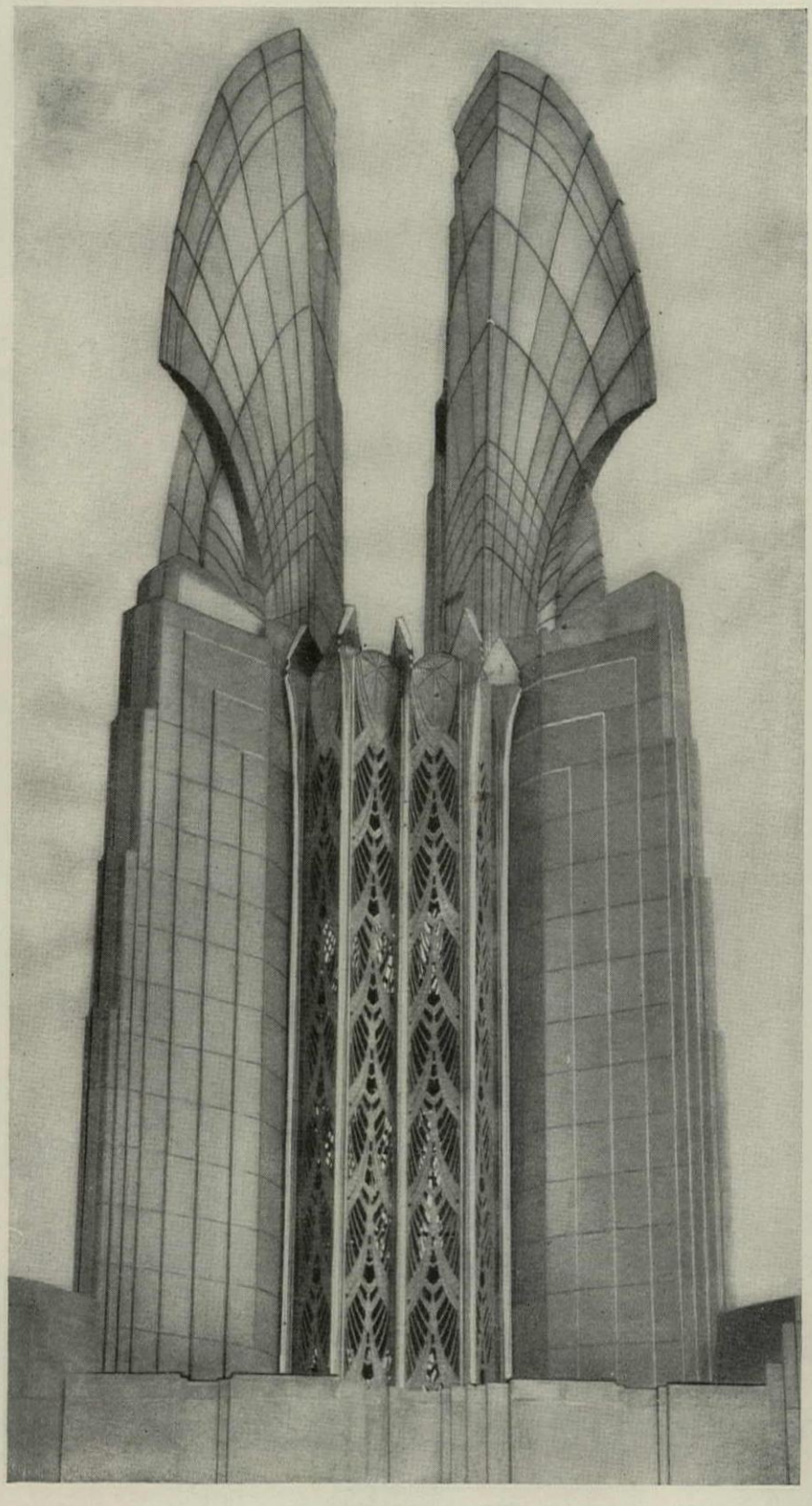
ENERGY
ELEVATORS & DUMBWAITERS
WHEREVER A LIFT IS NEEDED

Building—*Genesee Valley Trust Company Building, Rochester, N. Y. Architects: Voorhees, Gmelin and Walker, New York, N. Y. Associate Architect: Carl C. Ade, Rochester, N. Y. General Contractor: A. Frederick and Sons Co., Rochester, N. Y. Ornamental Metal Contractor: Francis Metal Door and Window Corp., Rochester, N. Y.*

ALCOA
ALUMINUM

See how Alcoa Aluminum meets the Architects' desire for new structural and decorative effects





THE "Wings of Progress" and decorative grilles in the tower of the new Genesee Valley Trust Building emphasize the value of Alcoa Aluminum to the designer in search of a practical structural and decorative material in which to render his artistic visualizations.

The four wings extend from the top of the tower. 42 feet in height, they are cast of Alcoa No. 43 Aluminum Alloy. Their total weight is only 28,000 pounds. The seven grilles in the tower are also cast of Alcoa No. 43 Aluminum Alloy and weigh approximately 1120 pounds. Mullions and flood-light reflectors in the tower are made of Alcoa Aluminum sheet; 8000 pounds of sheet being used in their construction.

On the ground floor, the windows in the banking room are made of Alcoa Aluminum. Five of these windows having fixed sash, eight composed

ABOVE—The Tower, showing the Alcoa Aluminum grilles, mullions, and "Wings of Progress". Flood-lights of Alcoa Aluminum are placed behind the grilles so as to throw light on the wings.

AT RIGHT, NEXT PAGE—Banking room windows made of Alcoa Aluminum. Five having fixed sash are 12 ft. by 19 ft. 6 in. Eight composed of lower projecting window, 4 ft. 8 in. by 8 ft. 8 in., spandrel 4 ft. 8 in. by 6 ft., and upper projecting window, 4 ft. 8 in. x 6 ft. 6 in.

of lower projecting window, spandrels, and upper projecting window. The windows are made of extruded shapes of Alcoa Aluminum—the spandrels are cast of Alcoa No. 43 Aluminum Alloy left in the natural finish.

In this one structure, then, Alcoa Aluminum has been used in cast, extruded and sheet form. It can be forged, pressed, rolled, machined and welded. It may also be etched or finished in a number of different ways as required by the decorative scheme.

As Alcoa Aluminum weighs ⅓ as much as old-fashioned metals it is much easier to ship, truck and erect. It is tough and durable and, in addition, the weather will not make it streak onto adjoining surfaces. In addition to its many other advantages, the cost of Alcoa Aluminum is moderate.

Our nearest office will gladly send a representative to talk with you on this modern building material. Address ALUMINUM COMPANY *of* AMERICA; 2406 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA ALUMINUM

IN OUR DECEMBER ISSUE

VERNON HOWE BAILEY has for years been drawing architecture in various parts of the world and drawing it better than most architects. He has brought to the public in this country, through his travel drawings and writings, a pretty fair knowledge of both the well-traveled and more remote parts of Europe. Conversely he has brought to Europeans a graphic idea of the appearance of our American cities. A series of his large lithographic drawings of the skyscrapers of New York was exhibited widely in the great European centers and was greeted by the foreign press as the first adequate presentation there of the rapid changes which were taking place over here. He has coupled the newspaper man's sense of what is new and interesting with the expressive powers of the artist and these, under the pressure of his exceptionally abundant energy, have enabled him to be an important factor in the education of all literate peoples concerning the world they live in. For these services he deserves our homage. It is with great pleasure that we announce for December a presentation of a group of his drawings in various media illustrating an article on his career by our old friend, Francis S. Swales. Culled from among the thousands he has turned out in his lifetime, these drawings can only suggest the extent and quality of his artistic production, but we are sure that our readers can gather some inspiration by examining them. Two of his recent water colors will be reproduced in full color with the issue.

ELMER GREY of Pasadena is known not only as an architect of outstanding ability but as a man who has always been interested in helping his draftsmen to improve themselves and advance in the profession. In our December issue he will give us some of the fruits of his experience in the form of advice and suggestions to the draftsman who wants to start out in practice for himself. A man may be made or broken at this critical stage in his career and we are sure that what Mr. Grey has to say on this very important subject will be read with care by every ambitious draftsman.

JOHN HARBESON is back with us again after a summer in Europe and resumes in December his valuable series on "Design in Modern Architecture." This time he will discuss Mosaic and Stained Glass as they are being used in the decoration of modern buildings. It is natural that in their desire for striking color the designers of today should seek to use these two peculiarly rich means of embellishing their architecture. The crafts themselves are fundamental and independent of period, but since mediæval days it is only within recent years that artists have cut loose from the bonds of traditional expression in glass and mosaic and have become creators rather than imitators. Mr. Harbeson will show some of the results of this liberation from archæology. We may like it and we may not, but it will be at least interesting.

W. FRANCKLYN PARIS, architect and critic, has contributed for the next issue an extremely clear-headed and sound exposition of what modernism is all about. The subject has been gone over many times since the movement started, and by all sorts of people, radicals and conservatives, but we have not seen from any pen a more dispassionate, unprejudiced analysis than that presented by Mr. Paris. To those who are certain that they have their bearings in this period of transition in design, nothing, perhaps, can be said, but we feel that most architects and designers who are interested in the philosophy of their profession will read his article and think about it.

JOHN TAYLOR ARMS, who is, among etchers, an almost incredible craftsman, will be represented by his plate *Vezelay* which has been reproduced by the Similetone process for our December frontispiece. The sturdy tower of the fine old mediæval church forms the center of interest of this picture. The artist has delineated it with a thorough knowledge of its architecture as well as with his amazing ability to make the copper record detail almost molecular in scale. We hope that our readers will find opportunity some time to examine an original print from this plate to which no process of reproduction could do full justice.

PHILIP G. KNOBLOCH continues to put his practical knowledge of drafting room problems at the service of our readers in the form of sound construction details and articles on specification writing. This month the construction plates show steel stairs worked up from data kindly supplied by Sexauer and Lemke of Long Island City, New York. He is now preparing some marquise detail sheets, through the courtesy of the same firm, to appear probably in December. We are still anxious for suggestions from draftsmen of other subjects they would like to see covered by Mr. Knobloch. Let us know of any problems that occur to you as needing solution.

THERE WILL BE other useful and interesting things for you in the December issue but we have so many on hand at the moment that we have not yet decided which to present. Furthermore, if we tell you about everything that is to come next month there will be nothing left to surprise you with—and it is the surprise element, we are told, that makes life interesting. Meanwhile we wish you would sit down and write us a list of the things you would like to see us do in 1931. If there is any subject you would particularly like to see covered, any data you want collected, any draftsman whose work merits special discussion, let us know while you think of it so that it can be included in our plans for next year. We are here to serve you and to make PENCIL POINTS as helpful as possible.

CONNECTICUT CONNECTAPHONE

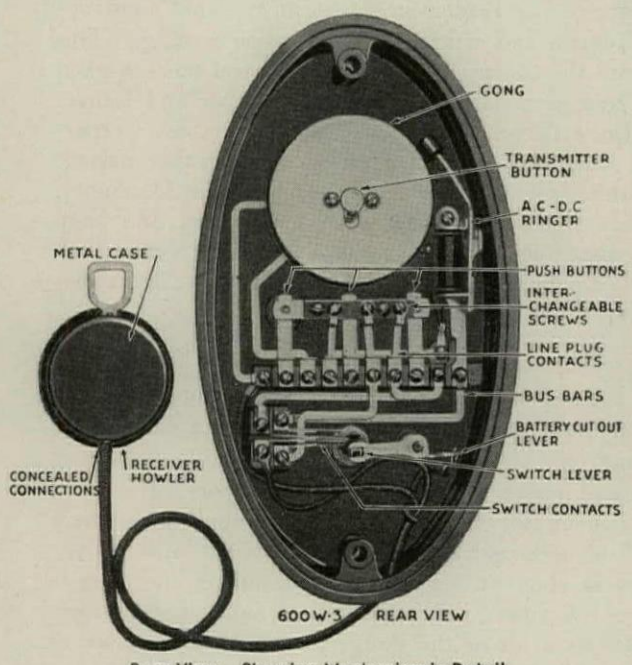
Provides instant communication ... with all parts of the building

The Connectaphone is the practical and efficient way to handle the management of apartment houses, schools, and similar installations. With this marvel telephone the members of the staff may constantly be in touch with a central office or with one another. Immediate instructions can be given—check-ups made.

The Connectaphone is as attractive as it is efficient. Oval in shape, it can be had in either brown or black bakelite; other colors to order. The mouthpiece is molded as an integral part of the body as shown in the illustration. Absolutely dust-proof.

The improved Connecticut construction, employing bus bars, eliminates all wiring and soldering in the telephone circuit, and makes the Connectaphone tamper proof. By simply removing the screws or bus bars, the instrument can be quickly adapted to other circuits. **The body of the phone, containing all mechanism, plugs into a terminal strip mounted on the back plate which permits all wiring and testing to be done; and the room can be completely decorated before the finished phone is mounted.** Furnished with 1, 2, or 3 buttons.

Front View Connectaphone



Rear View—Showing Mechanism in Detail

There is a Connecticut representative in your vicinity who will gladly submit samples and supply detailed information—or write us direct for literature.

CONNECTICUT TELEPHONE & ELECTRIC CORPORATION
38 Britannia Street, Meriden, Connecticut
Gentlemen: Please send me your catalog 401-B describing communicating systems for every type of installation.

Name.....

Address.....

City..... State.....

Connecticut TELEPHONE & ELECTRIC Corporation
38 Britannia Street Meriden, Connecticut
[Division of Commercial Instrument Corporation]

PENCIL POINTS

An Illustrated Monthly JOURNAL for the DRAFTING ROOM *Edited by* RUSSELL F. WHITEHEAD KENNETH REID & E. L. CLEAVER *Published by* THE PENCIL POINTS PRESS, INC.
Ralph Reinhold, *President*, L. F. Nellis, *Vice-President*, William V. Montgomery, *Secretary*

VARIATION ON A THEME BY HENRY FORD

ALTHOUGH THE building statistics for September show a slight improvement over a year ago (the same is true for the first half of October), nevertheless there will apparently be many architectural draftsmen out of work in our cities this winter, and those who are fortunate enough to have jobs will not be too sure of their permanence. In view of these circumstances, it behooves the profession to consider how conditions can be bettered. We pass on herewith an interesting suggestion that comes to us from a New York architect. It is, briefly, that those offices which have work enough to keep going might help by operating on a five-day week basis, taking on enough extra draftsmen to make up the man-hours represented by the sixth day.

There are good and bad points to this suggestion, but it was presented quite honestly by its originator as an attempt to help the situation. Architects who might be altruistic enough to change their practice in this respect would make a little less money than they would by going on in their usual way. The draftsmen who were already employed would have their incomes cut down to correspond with the smaller amount of time put in on the boards. The only compensation for both of these classes would have to lie in the satisfaction of knowing that they were helping some of their fellow workers who otherwise might have to go entirely jobless.

Our friend's proposal is to be discussed in the very near future by a group of leading practitioners in New York who are alive to the seriousness of the situation, and it is possible that a number of offices may undertake to make the change. Some offices have already adopted the five-day week in order to make it possible to avoid cutting down their working force more than was absolutely necessary. The draftsmen's pay per week in these cases has been reduced, but they have the comfort of knowing that they are less likely to be dropped out entirely. The architects' percentage of overhead has gone up, but they have earned increased loyalty from their assistants. With better times will come their reward.

We would like expressions of opinion from our readers, both draftsmen and architects, as to the merits or faults of this suggestion. We would also like to have any other suggestions which might be passed along for the good of the profession in general. It is to the advantage of all concerned that the talent represented by America's architectural draftsmen, developed by years of study and apprenticeship, shall not be wasted by forcing its possessors into other fields if it can possibly be avoided. There will come a time when every bit of this talent will be needed.

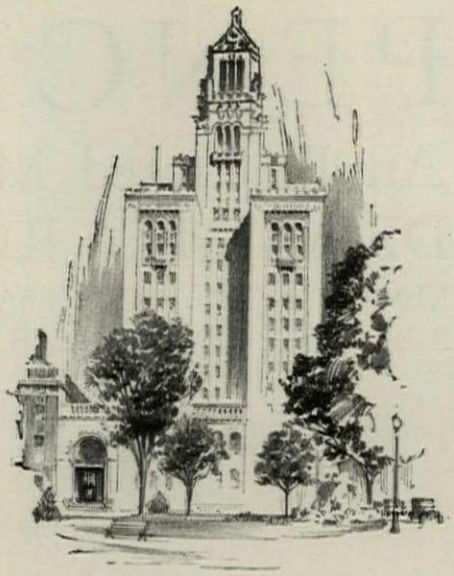
Contents

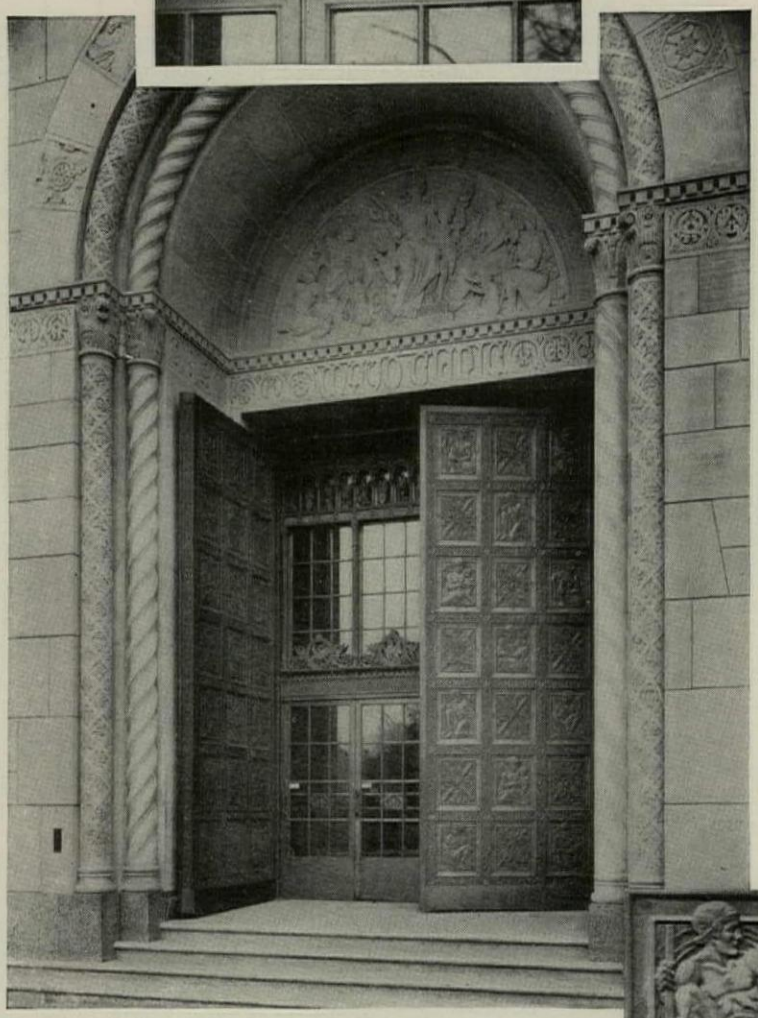
PENCIL POINTS—*Yearly subscription, payable in advance, $3.00 to the U. S. A., U. S. Possessions, Cuba, and Mexico. Foreign subscriptions in the Postal Union, $1.00 additional for postage; Canadian subscriptions, 50 cents additional. Remittances by International or American Express Money Order or by Draft on a bank in the U. S. Payable in United States Funds. Subscribers are requested to state profession or occupation. TO SUBSCRIBERS: Instructions for change of address should reach us before the twentieth of the month to assure delivery of the forthcoming issue. Please give both old and new addresses. TO CONTRIBUTORS: We are always glad to receive manuscripts, drawings, etc. We will use due care with material in our hands, but cannot be responsible for damages.*

EDITORIAL AND BUSINESS OFFICES, 419 FOURTH AVENUE, NEW YORK.

MAYO CLINIC

ROCHESTER MINNESOTA





This photograph of the Mayo Building entrance shows its outer bronze doors and vestibule screen of glass and bronze. . . . A detail from the ornament of this screen is shown in the inset above. . . . At the right is reproduced one of the panels from the outer door

A Doorway of Remarkable Beauty

THE doorway of the Mayo Building is a symbol of hope to sufferers. None are turned away. ✓ ✓ ✓ Under an impressive archway of Mankato stone stand the huge doors enhanced and beautified by cast bronze. ✓ ✓ ✓ The outer doors weigh nearly three tons. Closed or open they show a paneled design decorated by symbolic ornament. Each leaf is 16 x 6 feet in size. . . . The doors are electrically operated and swing with remarkable ease. ✓ ✓ ✓ Behind the doors is a bronze and glass vestibule screen finished in brown patine on a green background. ✓ ✓ ✓ Bronze ornamentation gives the entrance an effect of thoroughness, completeness and sincerity which must inspire confidence.

•

Architects . . . . ELLERBE & CO.
Builders . . . G. SCHWARTZ & CO.
Modeler, LOUIS RICHARD KIRCHNER

•

All ornamental metal work executed by

GENERAL BRONZE CORPORATION

480 HANCOCK STREET, LONG ISLAND CITY, N. Y.

"DISTINCTIVE PRODUCTIONS IN ALL METALS"

IN KENSINGTON
FROM AN AQUATINT BY GEOFFREY WEDGEWOOD
Reproduced by courtesy of Kennedy and Co.

PENCIL POINTS

Volume XI November, 1930 Number 11

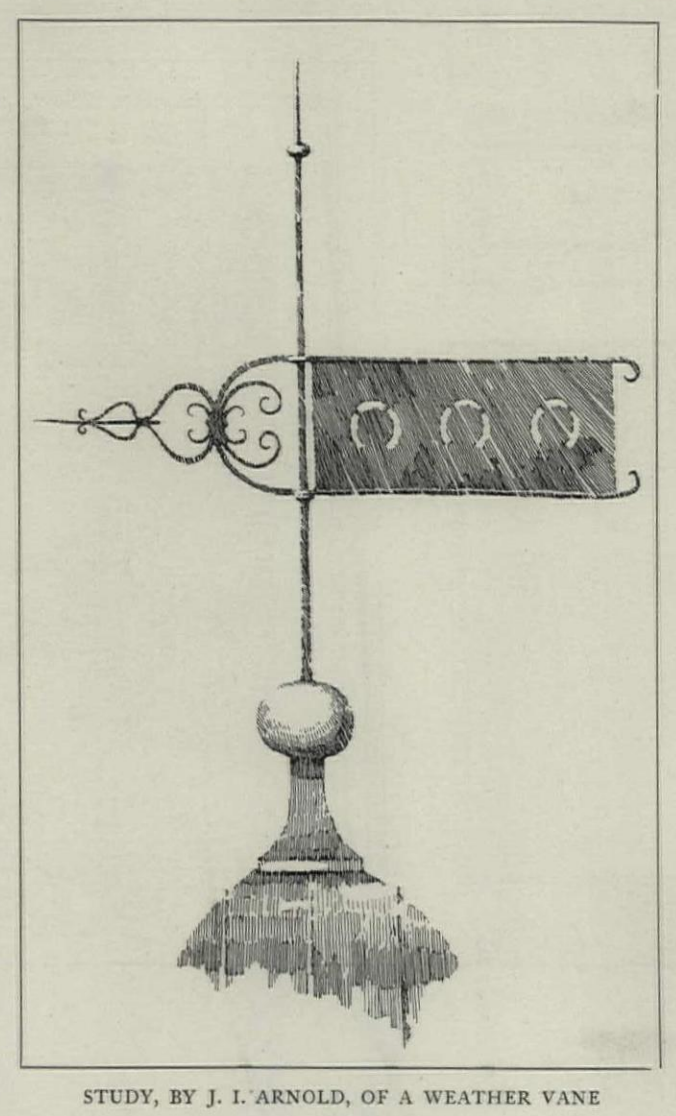
THE PEN-AND-INK DRAWINGS OF JAMES IRZA ARNOLD

By Rayne Adams

SUCH IS the versatility of man that the marking off of limitations in the arts as in the sciences is fraught with danger. So often the analyst is discredited by the arrival of some genius who easily knocks down the ninepins that have been so confidently set up. In considering pen-and-ink drawing as it relates particularly to architectural rendering, it seems safe to say that its field is a wide one. Yet, as one thinks of the pen-and-ink drawings which have made most appeal, this generalization emerges: the genius of pen and ink lives in the sunlight. Sunlight is quite as necessary to his being as was flame and fire to the salamanders of the alchemists. And the providing of flame for the one was no more difficult than is the maintaining of sunlight for the other.

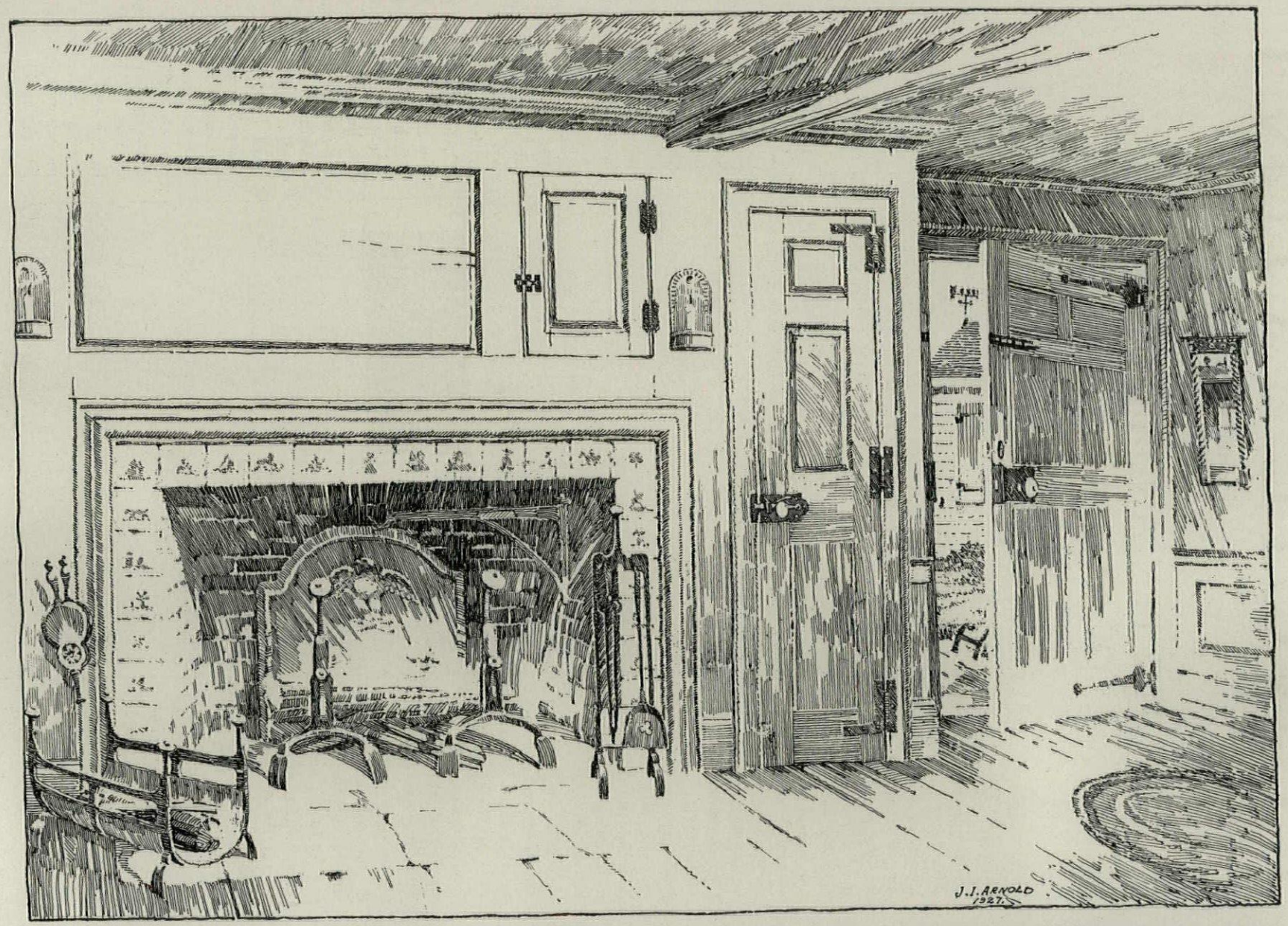
This is only another way, I suppose, of saying that there is, doubtless, no medium more absolute than pen and ink. And the major difficulty comes down pretty much in the end to the solving of the problem of the indication of *tone* or, especially, light or faint values. With pencil or wash, in lithography and etching, this difficulty may be minimized. Yet in pen-and-ink indication, the most competent of men, such as Goodhue, did not really find the secret of indicating, at least in small-scale drawings, light tones or values, irrespective of texture, which correspond to the values given us in the outdoor world. And with lesser men how often is the virility of the black ink and white paper contrasts so lost by the employment of what may best be characterized as injudicious shading.

The upshot of the attempt to solve the problem of light indeterminate values is the yielding to the temptation to follow one of two courses, the first being evasion, the second suggestion. I am not forgetting that it is possible to use pen and ink so that it borders on the technique of etching—in which a multiplicity of fine lines may work wonders. But etching has this to save it: it is always possible to obtain light tones, irrespective of the needle marks, by leaving just enough ink on the copper plate. This fortunate remedy is the birthright of those media which require printing for their fulfillment. The pen-and-ink drawing is direct: its salvation or damnation lies in the pen itself.

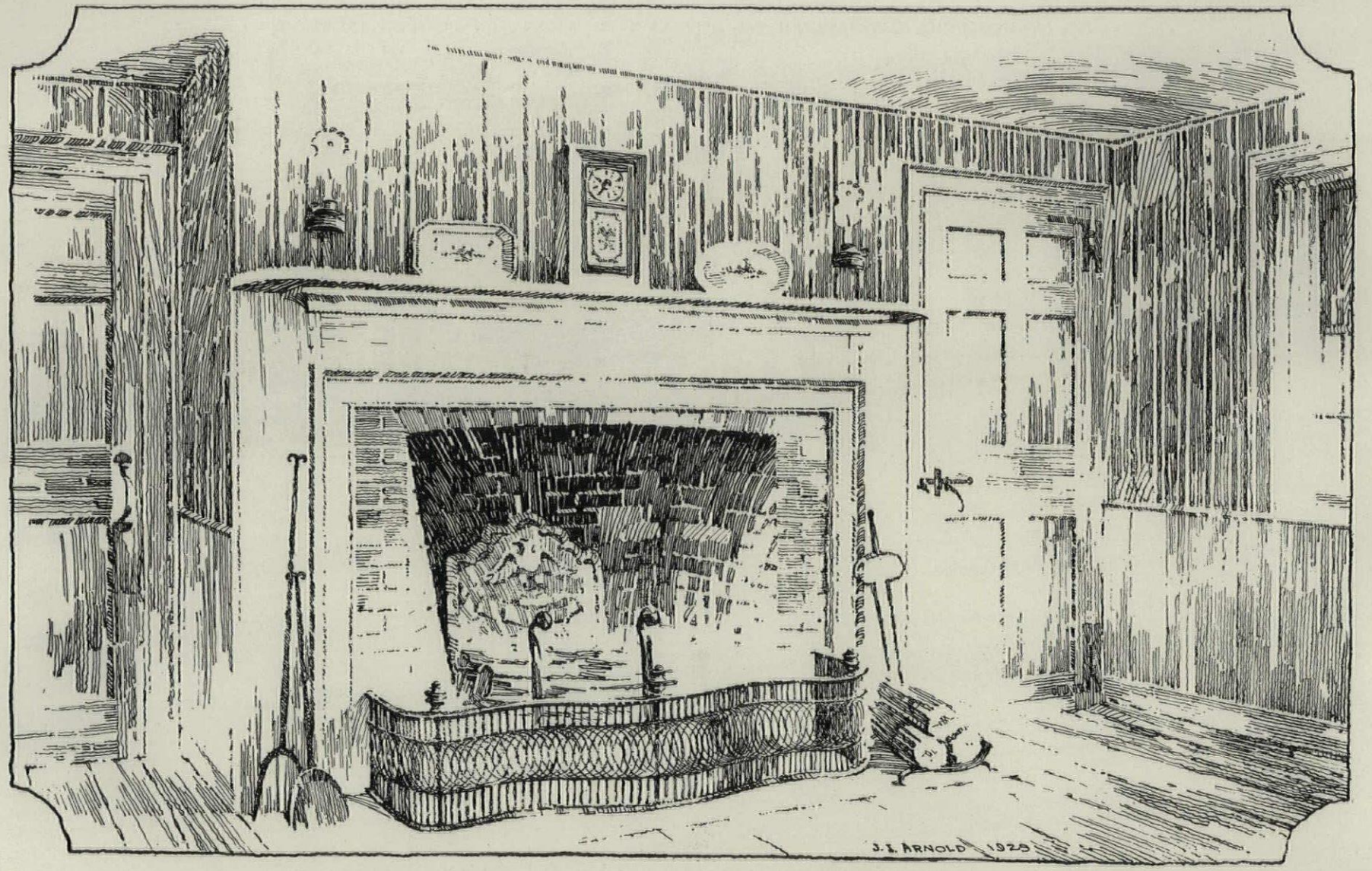


STUDY, BY J. I. ARNOLD, OF A WEATHER VANE

An excellent illustration of the old adage which advises one to bend before the storm lest he break is seen in the ancient and honored custom of evasion. This consists of the premeditated avoidance of certain subjects. Look, for example, through Griggs' drawings and note how rarely he shows trees in the middle distance. Trees in the background are treated broadly and trees in the foreground in detail—but the middle distance tree is generally absent. The second way out of the woods is that of suggestion and it is illustrated in scores of Rail-



STUDY BY J. I. ARNOLD OF AN EIGHTEENTH CENTURY AMERICAN FARMHOUSE INTERIOR SHOWING AUTHENTIC HARDWARE



AN EARLY NINETEENTH CENTURY AMERICAN FARMHOUSE INTERIOR AS DRAWN BY J. I. ARNOLD

A PEN-AND-INK STUDY BY J. I. ARNOLD OF AN ENGLISH WAYSIDE TAVERN IN THE COTSWOLD MANNER

ONE OF THE MANY FINE OLD LONG ISLAND FARMHOUSES WHICH, UNFORTUNATELY, ARE RAPIDLY DISAPPEARING

ton's drawings. A red brick wall has, it will be admitted, a most distinctive color, and, commonly, texture. Yet if, in a pen-and-ink drawing, one attempts to give a naturalistic value to this wall, the sunlight is very likely to escape and desert him altogether. To the sophisticated the way out of this unhappy situation is justified. By rendering a relatively small portion of the wall—indicating the bricks in this small section, usually forcing the scale, and leaving the rest of the wall *white*—it is possible to *suggest* the rough texture and the color value. In some of Pennell's drawings one may see a brick indication given by short broken irregular lines, and though it be perhaps more truthful it is, paradoxically, less satisfactory in the impression it gives us. If one could imagine a psychoanalyst devoting an instant's time to so austere a subject as pen-and-ink drawing, he would probably say that the acceptance of these subterfuges simply goes to prove that human nature is most accommodating: we see an indication of texture and material on a portion of the picture of the wall and we graciously assume that the rest of the wall is made of the same material. If we weren't so accommodating, pen-and-ink would vanish from the world of architectural rendering.

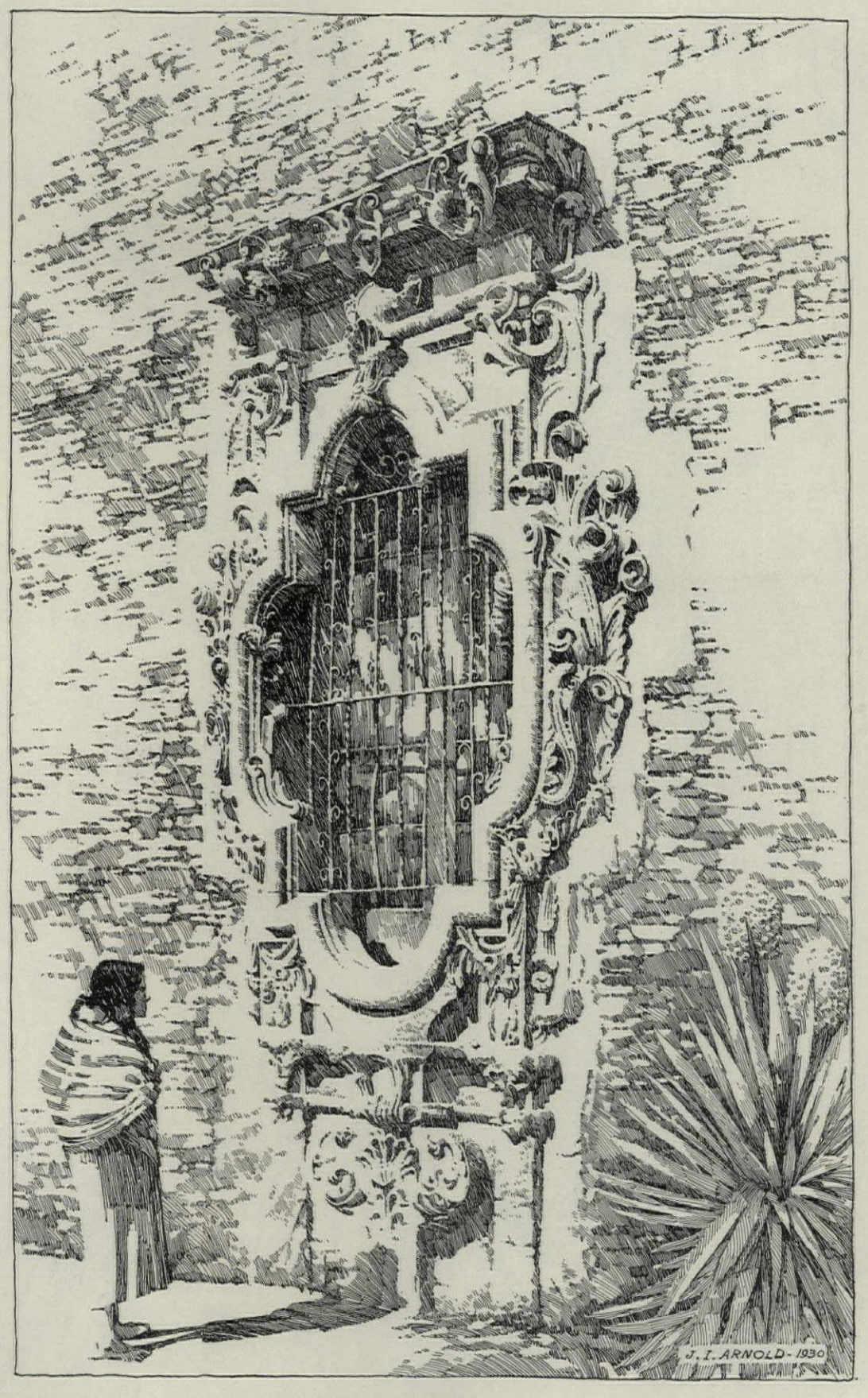
DRAWING BY F. L. GRIGGS
From "Highways and Byways in Hertfordshire"

Of course I am referring to the use of pen and ink used for portraying not outline, but surfaces of light and shade, color and texture. The amazing thing about the drawings of a young and untrained child is that he represents objects practically always in outline. Yet outline is a very great abstraction and one might suppose that it would not be the bond of union between Vierge or Lepère and the untutored child. Properly speaking, as philosophers of the oldest vintage have told us, outline does not exist in nature, except as we conceive of that impalpable division between light and shade, or between this color and that. And who can say where the exact edge of a shadow is? Examined closely, it is always a blur. The explanation doubtless lies in the fact that the child's imagination is free and that the imagination of Lepère, by the grace of Fate, was unspoiled. Even with what imagination we may have, we shall, if we are attentive, be able to metamorphose the marvellously simple line drawings of Lepère into pictures which are full of color, light and shade, though the indications to guide us be of the slightest.

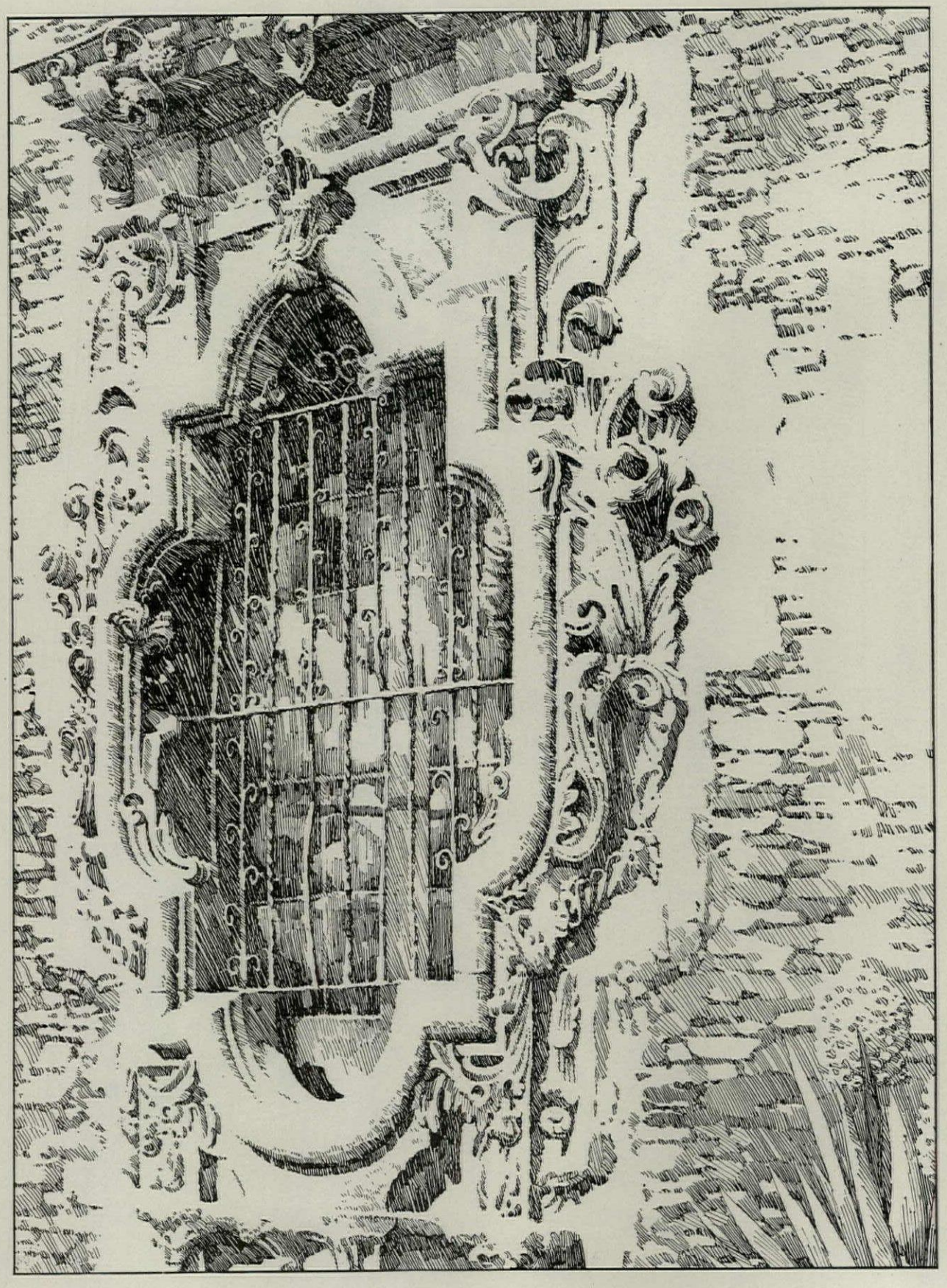
DRAWING BY HOWARD PYLE
From "Otto of the Silver Hand"

Perhaps it is the extreme convention to which pen-and-ink drawing is subject which is the secret of its appeal. Since it is capable of representing certain things so well, one is tempted to make it serve where it will not. And since its limitations are so patent, shall one not excuse the masters' use of *legerdemain* if it brings success. Railton's drawings are full of "tricks": the skillful falsification of values so that a *pattern* may be achieved. That pattern—a half rendered brick post falling into ruin—attracts the eye and we read into it some strong impression of reality. It is not *like* the brick post as we saw it—but it *suggests* some aspect of it. And since our impressions of reality are, according, again, to the most accomplished philosophers, discontinuous and fragmentary, this slight suggestion serves its end and makes the post a vital part of our experience.

If one may justifiably play fast and loose with values, are any rules for pen and ink possible? As in every other field there are rules:—the rules that we establish for ourselves. The difficulty is always getting another to see the validity of our rules. I recall that, a quarter of a century ago, the late David A. Gregg conducted a course in pen-and-ink drawing at the Massachusetts Institute of Technology (what a dreadful long name with which to clutter the world). Gregg was, at that time, perhaps the most capable of architectural renderers in pen and ink. It is doubly fitting here to recall the charm of his modest qualities—doubly, because it is always fitting to speak well of the dead and because Gregg's students owe him so much. He possessed an outstanding technique himself but he did not attempt to impose it on others. He had, however, his prejudices. He objected to cross hatching with lines at right angles. Yet one may see in Howard Pyle's drawing from "Otto of the Silver Hand" that such cross hatching may be used with distinction. One may go further. In the drawing by Griggs the cross hatching is built up of lines which are subject to no discernible system. And it seems to me that this latter freedom from observance of system in indication brings us into a happier frame of mind than does the systematic indication to which Gregg was habitually given.



A SPANISH-AMERICAN BAROQUE WINDOW IN TEXAS



DETAIL, AT ORIGINAL SIZE, OF DRAWING BY J. I. ARNOLD SHOWN ON PRECEDING PAGE

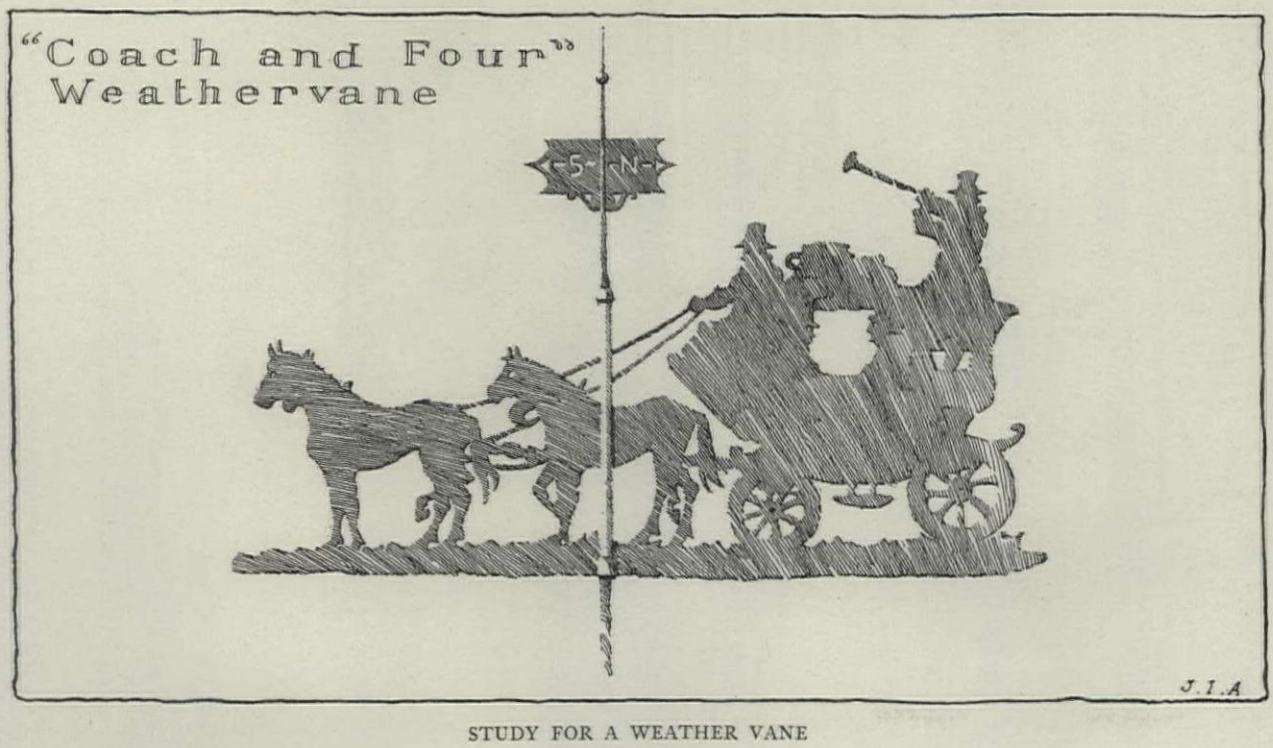
There is—if one may presume to Emersonize—a lesson in this. Teachers should, for the most part, be silent, and the students should do all the talking. Such a system of education would undoubtedly produce a lot of bosh—but it would not be systematized bosh. The student would attack his subject with the indirection of a child whose eyes do not focus and who lunges incontinently, yet with certainty of purpose and uncertainty of aim, at some nearby object. Later the child will learn to use his knife like everybody else—and originality will be supplanted by convention. As a part of the social state we live by mutual submission to such limitations as proscribe eating with one's knife. However valid such conventions may be in the world of intercourse, there is no reason why they should apply to the world of art. The student should be given a pen and in response to his question, "What do I do with this?" he should be told, "Find out." God knows that he may make better drawings with the butt end of the pen than with the point.

I suspect, from what Mr. Arnold has told me, that his beginnings in pen-and-ink work were highly experimental. His first drawing was made at the age of twelve with ordinary blue ink, and it would be interesting to reproduce it here. That, however, is not possible. Having made this drawing, he experimented with it. He attempted to pass a wash over certain portions in order to obtain those light tones which are so elusive, with the result that the ink spread with the rapidity and effectiveness of the seven plagues which overran Egypt. From that time on Mr. Arnold has sought very seriously *how* to do pen and ink. He has attempted to interpret, in terms of his own technique, by close observation of things as they are in nature, how they may be indicated. I think he has succeeded admirably, and especially in one difficult field. His drawings of such lowly and beautiful objects as Colonial hardware and utensils impress me with the fact that he has labored conscientiously to find how to express these objects. Look, for example, at his drawing of a weather vane, shown below. It is supposed to represent metal: and one easily believes it. Such indication looks easy. Try it.

Of course, the renderer in pen and ink—or other media—in dealing with our modern civic architecture at least, meets obstacles. Men like Railton and Griggs, Chamberlain and Rosenberg, stick pretty closely to the tumble-down ruins of an ancient architecture in which walls and roofs seem always to dominate. They avoid, one may assume, just-built architecture. I hazard the doubt if one could persuade Griggs to make a drawing of one of our stepped-back skyscrapers. I hasten to forestall correction by saying that if he has made such drawings I have not seen them.

At least our modern work of this kind has not attracted Mr. Arnold. He has found a special interest in early Colonial work. Born in New York State, he attended Syracuse University, taking the course in architecture. On leaving the university in 1910, he was engaged as a draftsman for several years in various architectural offices in New York City. In 1917, after some time spent as a designer for Todhunter in New York City, he entered into business with Mr. North, this business being devoted especially to the design and fabrication of mantels and hardware, particularly of the Colonial period. In this work he has achieved the distinction which talent and hard work merit—and which they don't always get.

Have you ever noticed, in the drawings of Howard

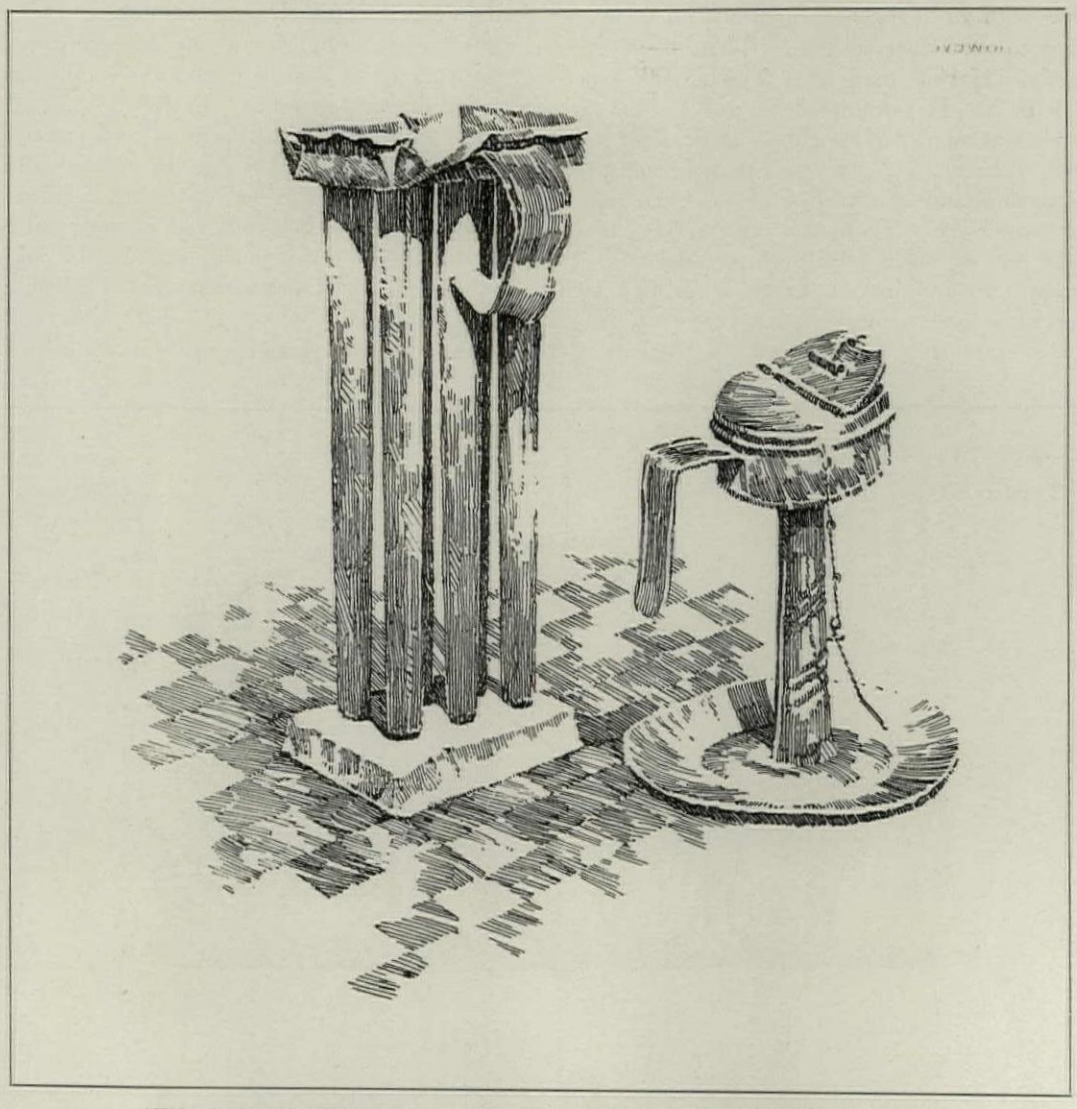


STUDY FOR A WEATHER VANE

Pyle, how thoroughly he understood the use of accessories? If the drawing be one representing three 16th Century pirates in a boat, even the water barrel in the foreground is sure to be a proper 16th Century water barrel. Pyle's work is surprisingly free from the anachronisms which are so frequent in the work of many others. If the pirate chief, Blackbeard, is smoking a pipe, it is a pipe such as was used in 1725. The knowledge implied in the correct use of accessories means not only that Pyle possessed an active memory but it implies a direct contact with the accessory itself. Pyle had the 16th Century water barrel and he had the 1725 pipe *in his studio*. He didn't guess: he knew.

One feels that Mr. Arnold knows his Colonial detail and Colonial accessories similarly. In his drawings such as that on page 854, showing a Colonial interior, one feels instinctively that the hardware, which the drawing is designed to illustrate, is authentic. In all the charming drawings of door-latches, hinges, bolts and what not, one feels that they were drawn by someone who knows how they were fashioned and how they operated. And the result of this knowledge is the unobtrusive assurance with which the high-lights and black values are placed.

This conscientiousness runs through Mr. Arnold's drawings and is noticeable in his handling of detail throughout. In no other medium, I suppose, are the variations of technique more apparent than in pen and ink. Every drawing has the defects of its qualities. The overemphasis of the sweeping line in Railton's later drawings of foliage; the overdone and inanimate quality of some of Griggs' work; the looseness of some of Pennell's work;—these are disturbing—but not in such measure as to outweigh our gratefulness for their happier work. Such criticism is not faultfinding: it is a simple recognition of the fact that what we gather with one hand we lose with the other, all too often. To catch the sunlight may mean the losing of something else. To give the formation of the bark of an old oak it may be necessary to sacrifice something of the mystery of the tree as we behold it in nature. All drawing is analytic and every analytic process, in giving us something specific, eliminates the vague and indefinable sense of wholeness which we gain in contemplating, as it grows, even a blade of grass.



STILL LIFE DRAWING BY J. I. ARNOLD—REPRODUCED AT ORIGINAL SIZE

STUDY OF CANDLE MOLDS AND AN EARLY AMERICAN TIN LAMP

THE GEOMETRY OF ARCHITECTURAL DRAFTING

13—PLOTTING OF EXTRANEOUS ANGLES

By Ernest Irving Freese

EDITOR'S NOTE:—*This article, which is copyrighted, 1930, by the author, continues the series begun in August, 1929.*

ANY ANGLE demands two lines for its graphical representation. If you draw but one line on the board —a horizontal, or a vertical, or an oblique—you have *not* pictured an angle. If you draw a second line in any direction other than parallel with the first—and either in touch with the first or removed from it—you *have* pictured an angle. The two lines are its *sides*. The common point to which these lines converge, whether this point be on or off the board, is the *vertex* of the angle. Now, if you draw a circle—*any* circle—about this vertex, or imagine such a circle as being so drawn, then the *measure* of the angle is that fractional part of one complete *revolution* that is intercepted by the sides of the angle. However, it is not my intent to here dwell *unduly* upon such revolutionary measures, but just to state that a plotting Babylonian astronomer once conjured up a number that is evenly divisible by more numbers than some other numbers he thought of. It's 360. Being such a roundabout number, it just naturally put a stop to all further contemplation of a revolutionary character until, *by degrees*, it came to be accepted as the unchangeable standard to which all protractors and tabulated trigonometrical functions now conform. So now, since I have unquestionably gone on record as cognizant of the fact that an angular "degree" is not a measure of *length* but is, instead, a three-hundred-and-sixtieth part of a *revolution*, we can, forthwith, proceed on our geometric way equipped with the requisite mutual understanding.

If one side of an angle is given, and the other required side can be materialized solely by direct manipulation of the sliding instruments operating either singly or in combination, the resultant angle is an "inherent" one; hence, requires no angular measurement or "plotting." The full range of these angles, and the set-ups required to produce them, have heretofore been shown at Diagram "1" of Figure 109 in Part 12, where they are referred to the horizontal as a base, and at Figure 56 in Part 6, where they are referred to a given extraneous line as a base. Angles other than these are extraneous to the instruments. In other words, an "extraneous" angle is one that is *not* a multiple of 7½ degrees. A few of these, as has been shown at Figure 110 in Part 12, are readily constructible with the compass. In general, however, any extraneous angle must be plotted, or laid out, by one or another of the methods in this Part presented.

Figure 115 acquaints you with some excellent protracting methods of general application in cases where the required angle contains a whole number of degrees or a fraction thereof that can be exactly obtained, or that can be accurately estimated, from the graduation marks of the instrument. Diagram "1" emphasizes the seldom-realized fact that the angle *ABD*, with vertex on the *circumference*, is always one half of the central angle *ACD*. Diagram "2" utilizes this advantage to procure a longer line, *BD*, than would otherwise be the case, as well as to avoid estimation of the ¼ degree which, in a protractor reading to half degrees, would otherwise become necessary. The longer base, *BA*, for alignment with the given line, also makes for greater accuracy in the *placement* of the protractor. It is evident that angles expressible in *quarter* degrees can thus be exactly laid off with a protractor graduated only to *half* degrees, and, similarly, that angles to *eighth* degrees

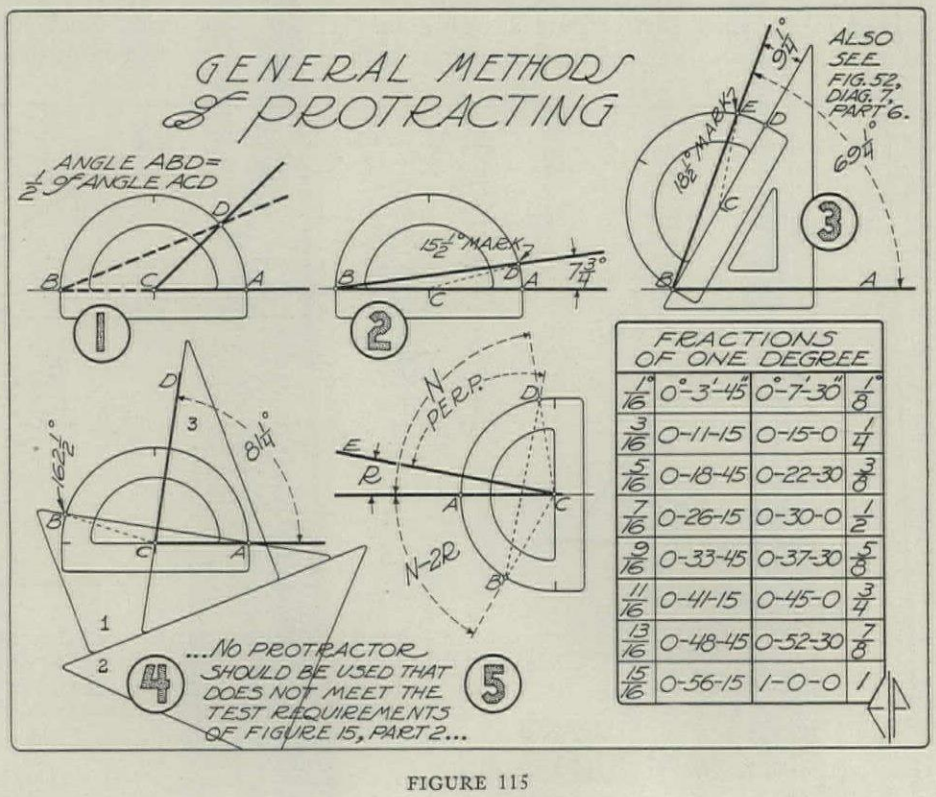


FIGURE 115

can be marked off from a protractor containing *quarter*-degree graduations. Moreover, in the one case, an eighth degree could be accurately estimated, and, in the other case, a sixteenth of a degree could be so estimated; for, in either case, by using the method shown at Diagram "2," *the angular indication on the protractor is twice the angle required.* Hence, in all cases, place the protractor with its mark *B* at the vertex of the required angle instead of there placing its central point *C*. Then mark off from *A* to *D*, exactly *twice* the number of degrees required. The line *DB* will then make the *required* angle with *BA*, as shown. Where the required angle exceeds, say, 30 degrees, some such combination as shown at Diagram "3" can be advantageously employed. Here, the "inherent" angle of 60 degrees has been subtracted from the required angle of 69¼ degrees, and the difference of 9¼ degrees laid off from the 60-degree line as a base, in the manner indicated. In a similar manner, *any* inherent angle can be used to reduce a required angle to one that will yield a longer line for more accurate prolongation. Diagram "4" shows another useful expedient not only to avoid quarter-degree estimation, but also to allow of the required line *CD* being projected as a perpendicular to the imaginary chord *AB*, through the one central point *C*. Obviously, it consists in merely doubling the central angle on the *protractor*, and then bisecting it by the well-known instrumental combination there indicated. The line *CD* can thus be accurately projected to any length required. This method is particularly suitable to wide angles and small protractors, and, *provided the protractor is accurate*, is productive of results as accurate as any other method. *No* protractor, however, should be used that does not meet the rigid test requirements heretofore enumerated and fully explained in the latter part of Part 2. Diagram "5" is another instance of a method similar to that of Diagram "4": the variation indicated at Diagram "5" being particularly applicable and suitable to exceedingly acute angles. Here, with the protractor placed in the position shown, but this time with its central point *C* at the vertex of the required angle, indent the point *D* any number of degrees, *N*, from *A*—preferably about 90, as shown. Then indent another point *B* such that *AB*, in degrees, equals *N* minus twice the required angle *R*. Then the required line *CE* becomes a perpendicular to the imaginary chord *BD*, and can be instrumentally projected in the same manner as the line *CD* of Diagram "4." The only advantage this method has over the method shown at Diagram "2" is that the required line *CE* of Diagram "5" can be projected through the *one* point at the vertex, whereas, the required line *BD* of Diagram "2" must be projected through the *two* points *B* and *D*. (See Figures 55 and 53, respectively, in Part 6.) The table given in Figure 115, herewith, will undoubtedly prove of value in converting minutes and seconds into fractions of a degree for protracting or otherwise laying off a given angle. If the required angle contains any combination of minutes and seconds not found in this table, other means than the protractor should be employed to plot same. A difference of 10 seconds, however, can be neglected without any difference becoming detectable in the resultant inclination of any line limited by a six-foot drafting-board! If a required angle calls for, say, 17 degrees, 45 minutes, 10 seconds—it can safely be laid off as 17¾ degrees. You will seldom find, however, even on surveys, any angle reading to less than a quarter of a minute.

At Figure 116, the approved "engineering" method of plotting angles by trigonometry is given. It requires the use of readily-procurable tables of "natural trigonometrical functions." Diagram "1" is a graphical representation of the functions made use of in this

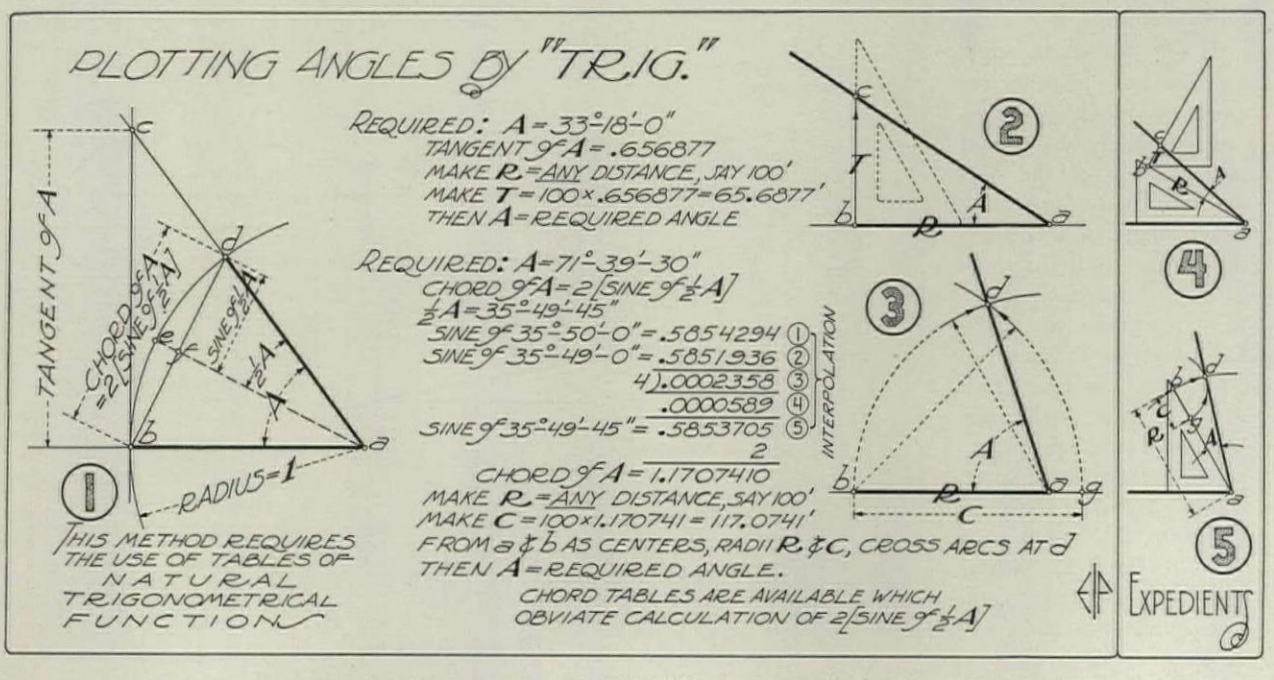


FIGURE 116

method—the trigonometrical "tangent," *bc*, of the required angle, *A*; and the trigonometrical "sine," *fd*, of *half* the required angle. The Diagram makes it plain that the "chord," *bd*, of the required angle, *A*, is equal to *twice* the sine of *half* the required angle. Hence, with the aid of the aforementioned trigonometrical tables, the chord of an angle can readily be determined from that formula; though chord tables are available which obviate even this simple calculation. Diagrams "2" and "3" show two examples worked out by this system: one utilizing the "tangent," or perpendicular *bc*, and the other utilizing the chord *bd*—the actual *lengths* of said tangent and chord being determined by multiplying the aforementioned tabulated *ratios* by the actual *length* of any assumed radius, *R*. The process is so clearly set forth in this Figure as to require no further explanation except, perhaps, the manner of interpolating values not given in the usual tables. These tabulated values ordinarily read to any number of *minutes* required, but the functions for angles containing fractions of a minute, or *seconds*, must be found by "interpolation." This is invariably done by simple proportion, that is, by assuming that the arc subtended by an angle of *one minute*, or sixty seconds, is a straight line—certainly a *practical* assumption! The general process of interpolation then becomes as follows, referring to the actual example given at Diagram "3": Set down the tabulated functions, items 1 and 2, of the two nearest angles *between which* the required angle occurs. Take their difference, which is item 3. Now consider this difference as the corresponding function of 1 minute. This is pure fiction, but it clarifies the process. In other words, in the example, if this difference, which is item 3, is the sine of 1 minute, or 60 seconds, then the sine of ¼ minute, or 15 seconds, will be ¼ of item 3, which is item 4. Hence, this difference, which is the sine of 15 seconds, *subtracted* from item 1, will result in item 5, which result is the interpolated sine of the *required angle*. The same result would have been attained by taking 45/60ths, or ¾, of item 3 and *adding* it to item 2, but in this case the route chosen is the shortest. In laying off the linear values required by this method of plotting angles, the decimal scale should be used. Even so, it is clearly out of the question to lay off a distance to the number of decimal places shown. But the greater the proportionate distances used, the greater will be the accuracy of the result. For angles up to, say, 45 degrees, the "tangent" method will prove satisfactory. Beyond this, because of the length of tangent required relative to the length of radius, it is apt to become clumsy or entirely unwieldy. The method by "chords" then becomes preferable—though in this method the beam compass may have to be used to swing the necessary arcs. By means of the expedients suggested at Diagrams "4" and "5," however, space may be saved and the big decimals made more manageable. These expeditious combination methods are fully set forth by the Diagrams referred to.

Now I am going to show you an entirely new and general method of plotting *any extraneous angle whatsoever* with no instruments except your three triangles and your scale. You will not need a protractor, nor any trigonometrical tables. But you will have to do a little simple preliminary arithmetic. And once you "get the hang of it"—you'll sit up nights doing it just for fun! This method is merely a workable system of *graphical* interpolation, that does away with decimal measurement entirely and gets the laid off distances into *integers*—whole numbers. And the results are so accurate that the "theoretical" deviation is graphically non-detectable within the limits of any drafting-board ever used. Applications of this method have already been shown in Part 12, at Figure 112, in laying out the central angles of the polygons of 17, 13, 11 and 7 sides. Now refer to Figure 117, herewith. The four worked-out examples are given in full to remove all doubt as to the method of interpolation for any angle whatsoever, whether expressed as a fraction or as degrees, minutes, and seconds. The method is invariable. There are no exceptions. In the first example, at Diagram "1," let it be required to lay out an angle of 4 degrees, 10 minutes; one side, *AB*, being given. On a convenient scratch pad, set down the required angle and reduce it to a fraction, which is 4 1-6 degrees as shown. Below this, set down the two angles nearest to 4 1-6 degrees that can be produced with the triangles. The interval between these two "inherent" angles will then be 7½ degrees—always—and the *required* angle will lie somewhere between. We shall see. In this case, the two nearest inherent angles are 0 degrees and 7½ degrees, as set down in the Diagram. Draw a line beneath these and then set down the difference between each and the given angle, resulting in the numbers 4 1-6 and 3 2-6, as shown, and maintaining the fractions to the same denominator. Now consider these two numbers, *whatever they may be*, not as angles, but as the *terms of a proportion*. Then reduce this proportion to integers. For example: 4 1-6 is to 3 2-6 as 25 is to 20—which is merely the process of determining the numerators of their purely fractional forms. But 25:20 is further reducible by the common divisor 5, resulting in the final numbers 5 and 4, as shown. Circle these numbers with your pencil, and continue the circles as *crossed lines* to the two inherent angles first set down above the horizontal line. These hieroglyphics are merely to remind you that the number of units at the lower end of either crossed line is to be laid off at the inherent angle indicated at the upper end of the same line, and that, from the point thus fixed, the other number of units is to be laid off at the other inherent angle—each inherent angle being referred to the given line as a base. Now let's do it: From the given vertex *B*, on the given line *AB*, lay off any 4 units at 0 degrees to the given line—which is *on* it, in this case—thus fixing point *C*. From *C*, lay off 5 of the same units at 7½ degrees to the given line, thus fixing *D*. The line *BD* then makes the required angle with the given line *AB*. Note that the two inherent angles between which the required angle is

interpolated, are always referred to the given line *AB*, and that it makes no difference at all whether one or the other is laid off first: the point *D*, establishing the required angle *ABD*, will always come at the same place because the required line *BD* is the diagonal of the parallelogram of graphical interpolation. You will readily discover this by laying off the required angle *both* ways from the same vertex, from which the line *BD* will actually be *seen* as this diagonal. This system, evolved by the author and consistently used in his own drafting-room, is actually the most accurate practical method of laying off angles that has so far been invented. It can be mastered in ten minutes, and is unforgetable once the easy arithmetical preliminaries are understood. The symbols used in the Diagrams can then be dispensed with, though their use avoids any possibility of confusion. At Diagram "2," the required angle lies between two inherent obliques, rather than between the given line and one oblique. Diagram "3" shows the process by which the central angle of the tridecagon shown at Diagram "2" of Figure 112 in Part 12 was determined—1-13th of 360 degrees. At Diagram "4," the required angle runs to *seconds*, but the process is exactly the same. In this case, however, the final irreducible units are further divided by 12, thus getting the proportion in terms of *feet and inches*, as indicated, and rendering the distances easy to lay off at any suitable drafting scale. Of course, the units 499 and 401 could just as readily be laid off with the decimal scale. The results would be the same: it would not change the angle so long as the *proportion* between the units remains unchanged. The point is: the final units used can *always* be gotten into such form that they can be *exactly* laid off to any convenient or suitable scale. The only departure from "theory," in this practical method of laying off angles, is the assumption that *one* of the forty-eight 7½-degree sectors of a circle is a *triangle*. The departure from practical exactitude is nothing. In fact, since the bisector of a 7½-degree angle is also the bisector of its arc, the method is also *theoretically* exact for every angle that is a multiple of 3¾-degrees.

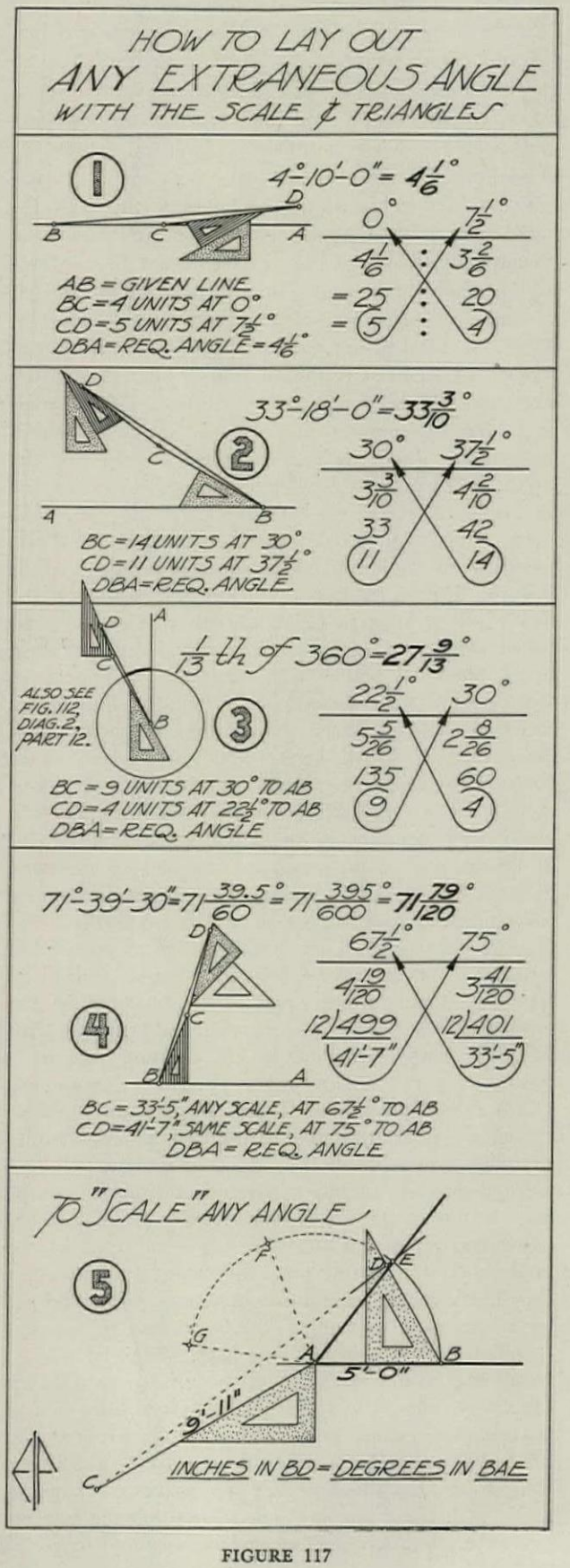


FIGURE 117

At Diagram "5," of Figure 117, a practical method of "scaling" any angle is shown, which also can be applied to the laying off of any required angle when the number of degrees, whole or fractional, is expressible in a number which, *considered as inches*, could be accurately laid off at some convenient scale. This is how: Let *BAE* be an angle, not exceeding 60 degrees. You want to measure this angle *with the drafting scale*. All right: At *any* convenient scale, the larger the more accurate, draw the arc *BE* with a radius of 5'-0", and, on a 30-degree line through *A*, make *AC* equal 9'-11" at the same scale. Draw a short line from *E* directed to *C*, and cross this line at *D* with a 60-degree line from *B*. Now, measure *BD* in *inches*, at the scale used. Call these inches *degrees*. That's it! Now, if the angle to be measured *exceeds* 60 degrees—the angle *BAF* or *BAG*, for instance—then first cut off 60-degree chords with the same 5'-0" radius until the remainder *BAE* becomes *less* than 60 degrees. Measure this. Then add to it the number of degrees first cut off. Again: that's it! You can measure any angle whatsoever

by this simple method with as much accuracy as you could read it off a protractor. Now I presume you wish to *lay off* an angle of, say, 52 degrees by this method. Merely reverse the above measuring process: Draw an arc of 5′-0″ radius at any suitable scale, and locate *C* at the same scale. On a 60-degree line from *B*, make *BD* equal 52 *inches*, which is the number of *degrees* required. Project *D*, collinear with *C*, to *E* on the arc. Then *ABE* will be the required angle of 52 degrees—and, if your work has been careful, no one can prove, *graphically*, that that angle is *not* 52 degrees. So there you are—another theory gone glimmering! But suppose the required angle *exceeds* 60 degrees. Well, first reduce it, arithmetically, by any number of 60-degree intervals that will leave a remainder *less* than 60. Lay *this* off. Then add, graphically along the arc from *E*, the number of 60-degree intervals originally subtracted. This graphical addition is merely the process of laying off 5-foot chords from *D* to *F* or *G*, as required.

Three cases are shown in Figure 118 in which the vertex of the required angle is off the board. At Diagram "1," *ab* is a given arc of known radius but with its center inaccessible. It is required to locate a point *d* removed any number of degrees, *A*, from the given point *c* on the arc. Here, *A* is the angle subtended by imaginary radials from *c* and *d*. Hence, the arc *cd* is the arc of the required angle, and the straight line *cd* is its chord. From a table of trigonometrical sines, find the sine of half the angle *A*. Multiply this by 2. Multiply the result by the known radius of the arc *ab*. This is the actual *length* of the chord *cd*. Hence, with this as radius, and from *c* as center, cross the given arc at *d*, which is the point required. This can also be found by purely geometrical means — but the method just given is the simpler of the two. The other, however, will be made known in connection with Diagrams "3" and "4." At Diagram "2," it is required to measure the given angle *A*, subtended by a given arc *cd* of unknown radius and inaccessible center. Through either given point, say *c*, draw a radial. (See Part 8, Figures 71 and 72.) From the other point, *d*, draw a perpendicular to this radial. Then the angle formed by this perpendicular and the chord *cd* is equal to half of the angle *A*, as indicated. In other words, twice the angle *cde* is the magnitude of the given angle *A*. The problem presented and solved in Diagrams "3" and "4" is one seldom encountered in practice; but it's interesting, and affords a most excellent test of your geometric *workmanship*. In each of these two Diagrams, the two given converging lines, *ab* and *cd*, form an angle, *G*, of which the vertex is off the board. It is required to determine the placement of another line, *pq* (of either Diagram), such that it will make a required angle, *R*, with *ab*, and, at the same time, be directed to the inaccessible vertex of the given angle *G*. Both Diagrams are solutions of the same problem, and carry the same reference letters. Here's the way to do it—and, as I say, it requires very careful workmanship: From any indented point, *e*, on *ab*, draw *ef* making the required angle with *ab*. Cross *ef* with any perpendicular thereto, *gh*. Project *e* to *m*, parallel with *cd;* and project *m* to *n*, parallel with *le*. (If the intersection at *n* becomes too acute for accurate definition of this point, then use one of the "detective" methods heretofore given at Figure 65 in Part 7 to locate *n*.) Now make *nn′* any multiple of *jn*, and make *kk′* the same multiple of *jk*. Then project *e* to *o*, parallel with *n′k′*, and, through *o*, draw *pq* at the required angle (parallel with *fe*). The line *pq* is the line required, converging to the same inaccessible vertex as the sides of the given angle *G*, and making the required angle *R* with the line *ab*. Now, if no trigonometrical tables were at hand, you could use the above method to lay off the angle, *A*, of Diagram

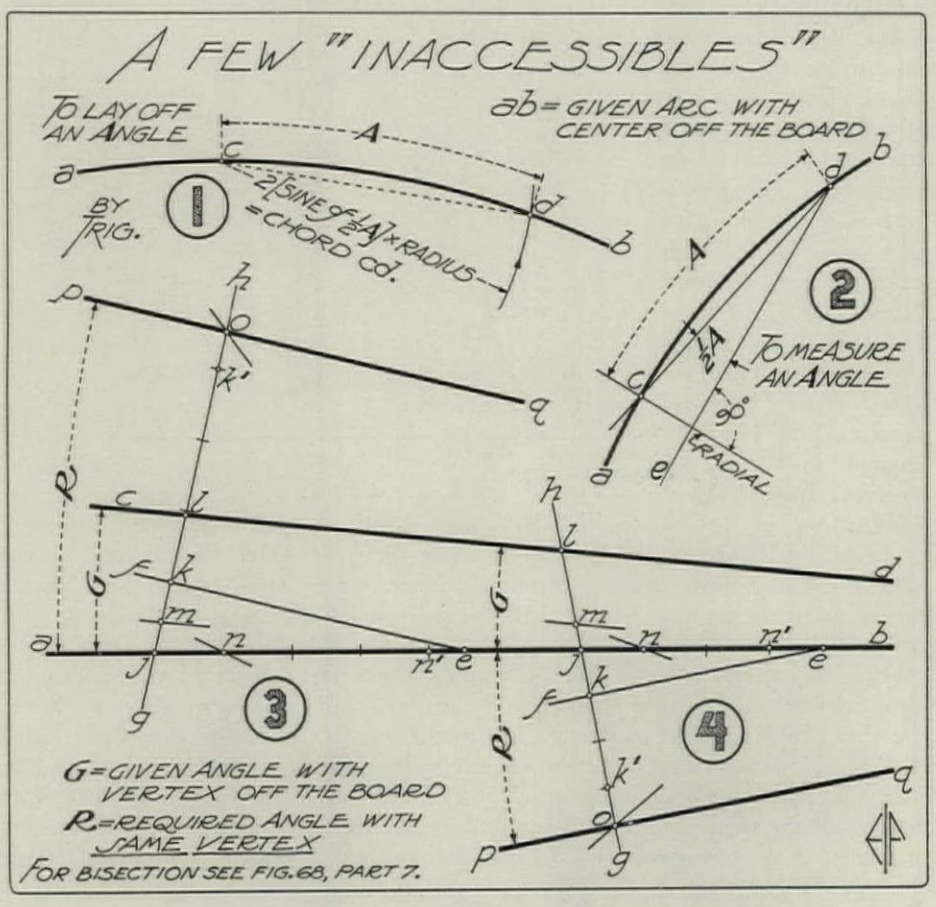


FIGURE 118

"1," by drawing a radial through *c*, and a second one anywhere you choose, and then using these two radials to locate a third radial which would cross the arc at *d* and correspond with the line *pq* as found at Diagrams "3" and "4."

Figure 119 shows the surveyor's method of measuring and recording angles by reference to the north and south "meridian." This shows very clearly that the angle contained in the descriptive "bearing" of a line is merely the angular deviation of that line from the meridian, and should clear up the confusion which architectural draftsmen often exhibit in laying out plot plans from data furnished by the surveyor. We shall now do a little surveying ourselves—so as to get the surveyor's "system" thoroughly imbued in *our* system, and thereby rout the last vestige of said confusion:—

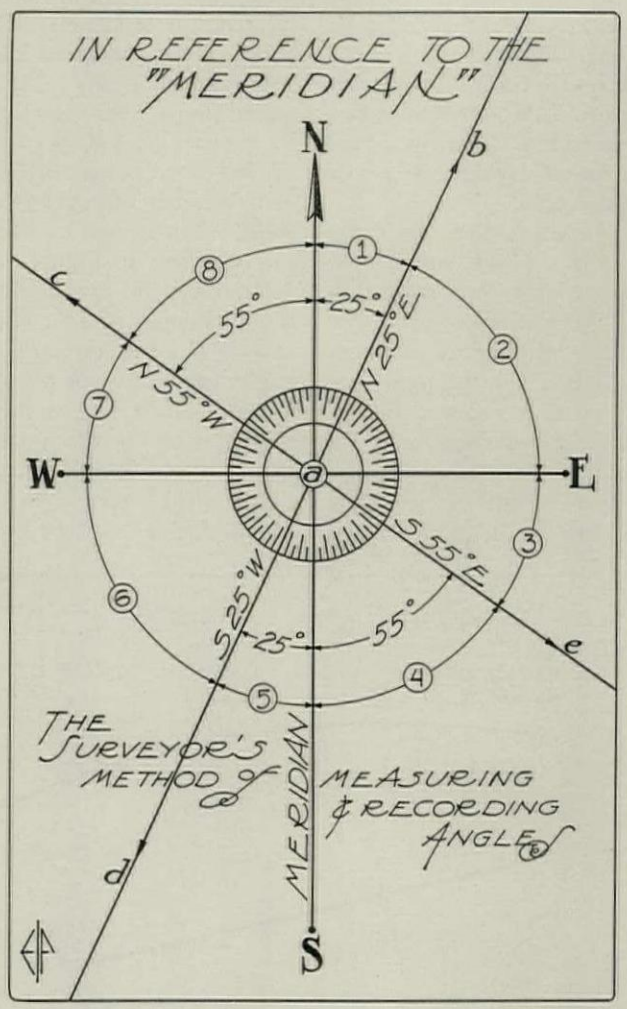


FIGURE 119

Set up the transit at station *a*, Figure 119. Swing the telescope into line with a stake at *b*. From the compass, read off the angle between the line of survey and the needle. It's 25 degrees. The compass needle is the "meridian"—the North-and-South line to which all surveyed angles are referred. Hence, since the line *ab* lies at an angle of 25 degrees *in respect to the meridian*, and since, as the compass shows, it bears North and East *from the point of survey, a*, the *direction* of the surveyed line becomes properly and fully designated as "*North 25 degrees East*," which designation, in the customary abbreviated form, is given in the Figure as it would appear upon the subsequent draft of this particular "survey." Now swing the telescope through an arc of 180 degrees—half a revolution—so that it points in the exactly *opposite*, or reverse, direction. Place a stake at *d*, on the line of sight. Now, it is plainly evident that the line *ad* is merely a prolongation of the line *ba*, or, in other words, that *bd* is a straight line. Yet, in respect to the position, *a, of the surveyor*, the portion *ab* bears North and East while the portion *ad* bears South and West. But, in respect to the *meridian, N-S*, the two portions make the same *angle*, namely 25 degrees, as designated in the Figure. Similarly, the line *ce* is one line through the transit-position *a*. Yet, in respect to *a*, *ac* bears North and West, while *ae* bears South and East; but, in respect to the unchanged meridian, each makes the same angle of 55 degrees. You can now see why the "bearings" of the opposite sides of a surveyed parallelogram are always the reverse of one another in spite of the apparently-contradictory facts that said sides are *parallel* and bear the same numerical angle: the lettered "bearings" refer to the direction in which the surveyor *looked* along each line in the changeable course of the survey, but the numerical *angles* refer to the assumedly-fixed meridian. One surveyor may survey a certain plot of ground by starting at a certain corner and moving around to the right. Another surveyor may survey the same plot of ground by starting at the same corner and moving around to the left. The corresponding plotted lines of the two surveys would carry exactly opposite bearings, but the *angles contained in those designations would be the same*—or, rather, they would be the same if any *two* surveyors could read a compass alike!—or if any *one* surveyor could read the same angle twice, *alike*. These qualifying "ifs" have no bearing whatsoever *relative to the meridian*. I can't understand why they were even mentioned. A quite recent survey of this particular field, Figure 119, along the lines there laid down, leads me to again approach the subject from another angle—*several* other angles, in fact. You have, no doubt, discovered the remarkable fact which Mr. Euclid has a prior copyright on—that when two straight lines cross one another they form four angles. So have I. And I have also discovered the fact that, of these four angles, the ones *opposite* one another are *equal* to each other. So have you. So has *anybody* who ever drew a geometric X for exercise—or otherwise. Look again at Figure 119. The angles *1* and *5* are equal; *2* and *6* are equal; *3* and *7* are equal; and so are *4* and *8*. Hence, since the angles *5* and *6* total 90 degrees, you could, by knowing the magnitude of angle *1*, deduce the magnitude of angle *6*. Well, that's how to *apply* your knowledge—else your discovery, and my discovery, and anybody's dis-

covery, of Mr. Euclid's proposition that when two straight lines cross one another they form four oppositely-equal angles—don't amount to much; just an X-ercise. Again, consider for the moment, any straight line, say the meridian line *N-S* of Figure 119. The line *bd* crosses it at an angle of 25 degrees. Is there, then, any doubt about the fact that the angle *baS* is 180 degrees *minus* 25 degrees? Can't be. All right, then you know this, too: when two straight lines cross one another, any two adjacent angles, of the four angles thus formed, sum up to 180 degrees. Two angles are "adjacent" when they have a common vertex and a common side. So, if the magnitude of the angle *Nac*, say, were known, you should exhibit no hesitancy whatsoever in finding the number of degrees in the angle *Nae*, or the angle *caS*. In fact, from the *two* angles, *1* and *8*, given in this Figure, every other numbered angle is made determinable. Or, now getting right to the point, if the "bearings" of but the *two* lines *ab* and *ac* were given, you should now be able to tell the angle which *any line of the Figure makes with any other line*. Now you are ready to lay out that plot plan of Mr. So-So's property from the data that just came in from the surveyor's office. You know the property well—it fronts on *Easy Street*:—

Figure 120, at Diagram "1," shows you how. This is the method the surveyor himself uses. It eliminates all likelihood of *accumulated* error, since all angles are laid off directly from the designated bearings of the lines in respect to the meridian, which latter becomes either a vertical or a horizontal line on the drafting board (whichever appears the more convenient), through the particular point of the survey from which the angle dates. In other words, each corner of the plot becomes the *vertex* of the required angle, and the "meridian" becomes one given *side*. The meridian need not necessarily be an actually drawn line—it can be an imaginary one. In the Figure, however, lines representing the four cardinal points of the compass are shown through each "joint" so as to render misunderstanding difficult. Say we start our layout at corner *1*. The survey shows that the bearing of the boundary line *1-2* is North and East, and that it makes an angle of 18 degrees and 20½ minutes with the imaginary meridian line through corner *1*. Hence, we have started our "plotting" in the same direction that the surveyor surveyed. If the line *1-2* had been designated as bearing South and West, instead of North and East, it would have indicated that the surveyor travelled around the property in the opposite direction. In which case, we would lay out the plot in the same manner, that is, by laying off the line *1-4* first. As it is, however, the direction *1-2* is the one here to follow. So, lay off the line *1-2*, from corner *1*, at the designated angle of 18 degrees and 20½ minutes in respect to the real or imaginary meridian drawn through this corner. On the thus-determined boundary line, now lay off the given distance *A*, as marked on the survey, and at the scale you have chosen for the plot

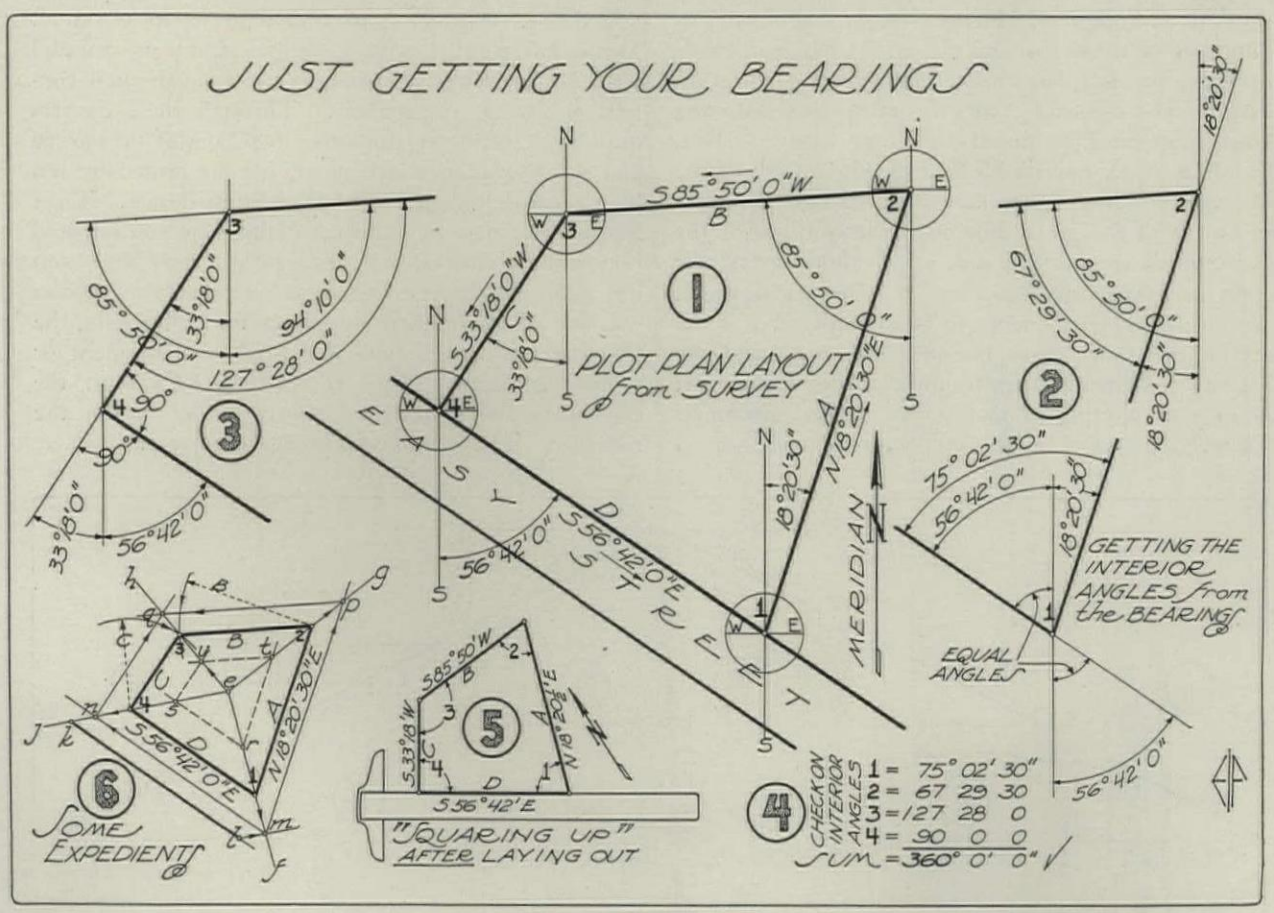


FIGURE 120

plan. This brings you to corner *2*. Here, the designated bearing indicates that the boundary *2-3* bears South and West from corner *2*, and that it makes an angle of 85 degrees and 50 minutes with the meridian through said point. Lay this off. Then lay off the distance *B*—so corner *3* becomes fixed. In this manner, all lines of the plot should be determined. Always work directly from the given bearings, laying off the angles contained therein from the meridian as a base —*never* by laying off the angles between the actual lot lines. These actual angles should, however, be eventually marked on the finished plot, in order that the latter be replete with all available data. Now you can apply the knowledge of related angles which the previous discussion pertaining to Figure 119 contained. In other words, from the "bearings" given on the plot plan of Figure 120, you can "deduce" the magnitude of the interior angles, *1*, *2*, *3* and *4*. However, inasmuch as this is a practical and typical example, I have shown at Diagrams "2" and "3" of Figure 120, how these interior angles are procured. The process is mostly *mental*, but I've made it *graphic* so as to allow *you* to give it thought. Before you leave the four corners of this plot, as given at Diagrams "2" and "3," you should unravel, fully, the process by which those four interior angles are there arrived at. Possibly you know already. Then look at Diagram "4," which indicates the entirely *general* fact that the sum of the interior angles of *any* plane quadrilateral figure, such as the plot plan of Diagram "1," is equal to four right angles or 360 degrees. Hence, if your calculation, or deduction, of those four interior angles has been made correctly, this is a fair check. However, it is not an *absolute* check—since two or more *compensating* errors may have produced the same result. This, though, is highly improbable. If the closing side of the plot, say the side *4-1*, checks with the designated bearing and with the given dimension thereon, and if the *four interior angles* then sum up as 360 degrees, the layout may be accepted as correct! But, incidentally, *surveyors* have been known to be in error. So, if the careful laying-out above outlined will not stand the checking tests mentioned, the mistake is in the survey, not in your plotting of that survey. Now, assuming all's well, you can "square up" your plotted plan on the board with the street line or any other bounding line most appropriate for the final layout of the grounds and placement of the building outlines thereon. So you see, you must, in the beginning, allow yourself plenty of paper to withstand the eventual "trimming" of the squaring-up episode. Or else you can make the final plot as a tracing from the original—indenting all definitely-located corners with the point of the dividers before *tracing* the connecting lines. Diagram "5" shows the final plot all set for development, and with all available data thereon—lot line dimensions, bearings, interior angles, and the *meridian*. Diagram "6" indicates "some expedients" that you *might* have employed. Assume that the two sides, *1-2* and *1-4*, have been laid out. Then, by crossing two arcs of radii equal to the dimensions *B* and *C*, respectively, and with centers at the corresponding corners *2* and *4*, as shown, the intermediate corner, *3*, is fixed without the necessity of laying off the angular bearing of the two closing sides thus placed. Again, let the figure *1-2-3-4* be the plot submitted by the surveyor—usually drawn to a decimal scale. Plot plans of property development and landscaping must be drawn to a scale of feet-and-inches to be of any working-value. Well, mark any interior point, *e*, on the surveyor's plan, preferably, however, at the intersection of the bisectors of any two of its interior angles, as shown. From *e*, draw lines through all corners. At any point *k*, on one of these lines, draw *kl* parallel with one of the sides and make it equal to the length of that side at the scale you desire. Project *l*, parallel with *je*, to *m* on *ef*. Draw *mn* parallel with *1-4*, and draw *mp* parallel with *1-2*, crossing the radials *ej* and *eg* at the new corners *n* and *p*, respectively. Through these corners draw lines paralleling the other two sides of the survey and meeting at *q*, which point, if your projection has been accurately done, will fall on *eh* as shown. Then *mpqn* is the new plot drawn at the scale you adopted for the initial line *kl*. Or, the new plot may have been the plan *rtus*, depending upon whether the process was one of enlargement or reduction. Obviously, the identical principle is applicable to the enlargement or reduction of any shape whatsoever. Caution: the expedients above described afford no check on the *surveyor*. They assume *his* layout as correct.

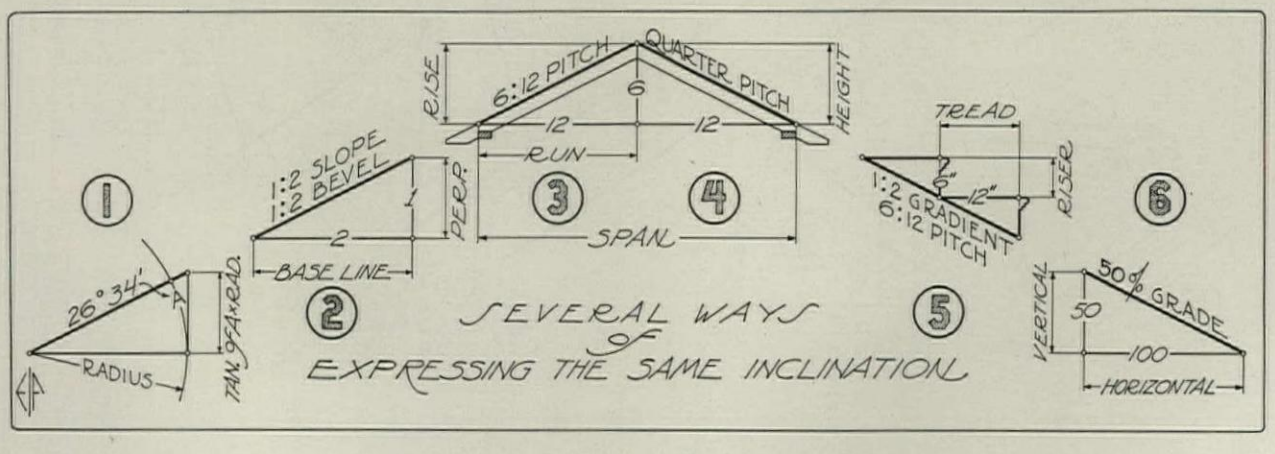


FIGURE 121

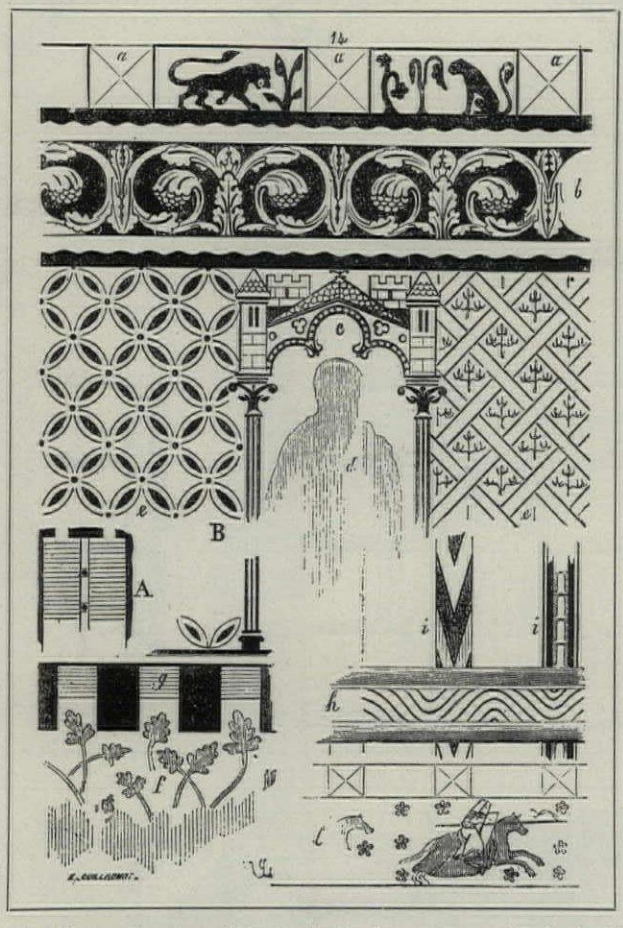
THE RICKER MANUSCRIPT TRANSLATIONS—11

VIOLLET-LE-DUC'S "RATIONAL DICTIONARY OF FRENCH ARCHITECTURE FROM THE ELEVENTH TO THE SIXTEENTH CENTURY," VOLUME VII

By Thomas E. O'Donnell

THIS VOLUME of Viollet-le-Duc's *Rational Dictionary of French Architecture* may, in some respects, be considered the most interesting of the entire set. The subjects that fall within it, through the mere coincidence of an alphabetical arrangement, are such as to make it especially attractive all the way through. Although there are only a little more than forty subjects treated, yet those are of such a nature, and of such importance that each is discussed at some length and effectively illustrated.

The translation reveals materials, not readily available, on such subjects as: the French *palace* of the Middle Ages in all phases of its development; French *half-timber* work, which has characteristics all its own; an exhaustive treatise on *painting*, as applied to architecture, during this period, a subject upon which there is but little available information; the *gable* in many interesting forms is explained and illustrated; the *pier*, especially as used and developed during the Romanesque and Gothic periods, is treated in every phase; the *pinnacle* in its varied and aspiring forms finds its place here; the *ceiling*, in construction, decoration, and detail also claims attention; an interesting and instructive account of *lead work* on roofs, gutters, and other exposed parts of buildings is given; the pont or *bridge* receives special attention of Viollet-le-Duc, thus indicating the importance of the bridge at this point in French history; *portals* and *porches*, especially those of the type developed in the finer churches and cathedrals, are given considerable space and well illustrated; following this there is an exhaustive and analytical study of architectural *profiles* of great variety; the *portico* and *balcony* are also given consideration; and the volume closes with an interesting account of the well and *well-curbs* of the Middle Ages. All of these are accompanied, in the original, with well selected and finely engraved illustrations, examples of which accompany this article.

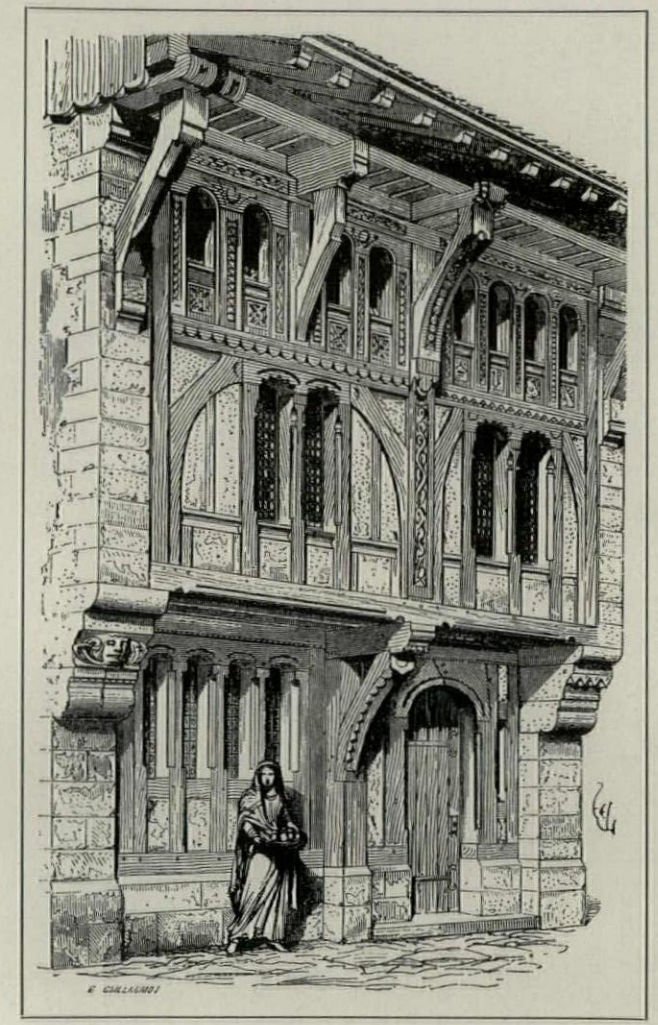


An illustration from Viollet-le-Duc's article on "Painting" during the Mediæval Period in France. Contrary to the usual opinion the Gothic builders painted considerable portions of the great churches and cathedrals upon both exterior and interior. From the "Dictionary of French Architecture," Vol. 7.

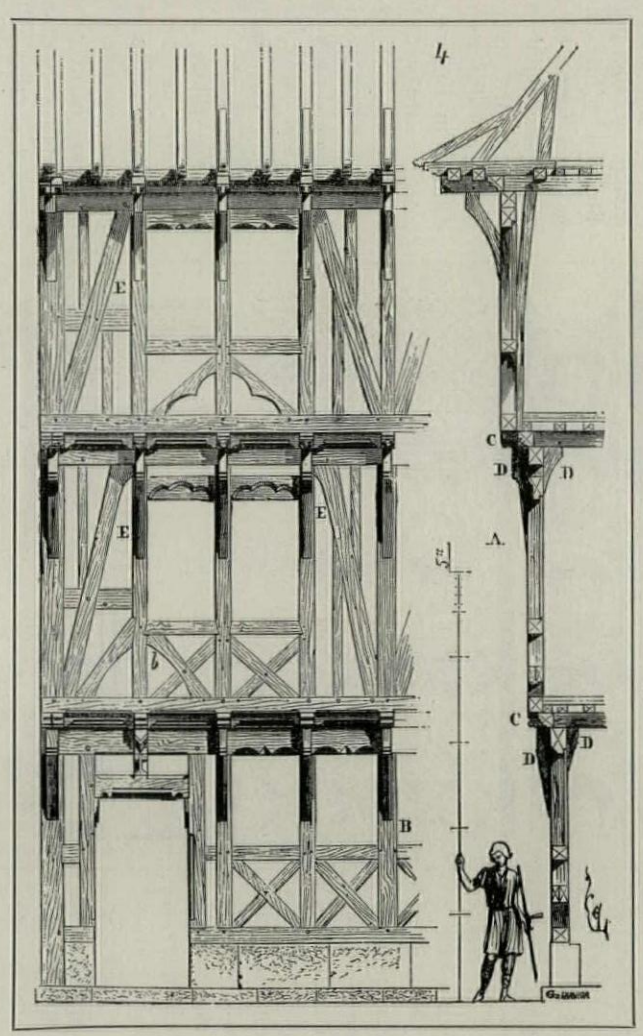
The *palace* is the first subject covered in this volume. The translation extends over twenty-eight pages in which every phase of the development of French castles or palaces of the period is discussed. The account as given forms an excellent background to the domestic architecture of France. Perhaps no country in Europe had a greater variety of palace architecture. The various types have been carefully studied by Viollet-le-Duc and are recorded here in a very instructive manner.

While palace architecture may be somewhat outside the realm of most modern architects, yet there are many phases of the smaller French domestic types that will offer direct inspiration for modern work, such, for instance, as French *half-timber work*. During the Middle Ages the use of half-timber construction was very common in France, and it reached a high state of perfection. This work is a combination of heavily framed wood sills, posts, braces, and ties, with the interstices filled in with masonry. This type of construction was particularly applicable to the narrow town-house, and at this period in French history the narrow streets of most of the cities were lined with houses and shops of half-timber work.

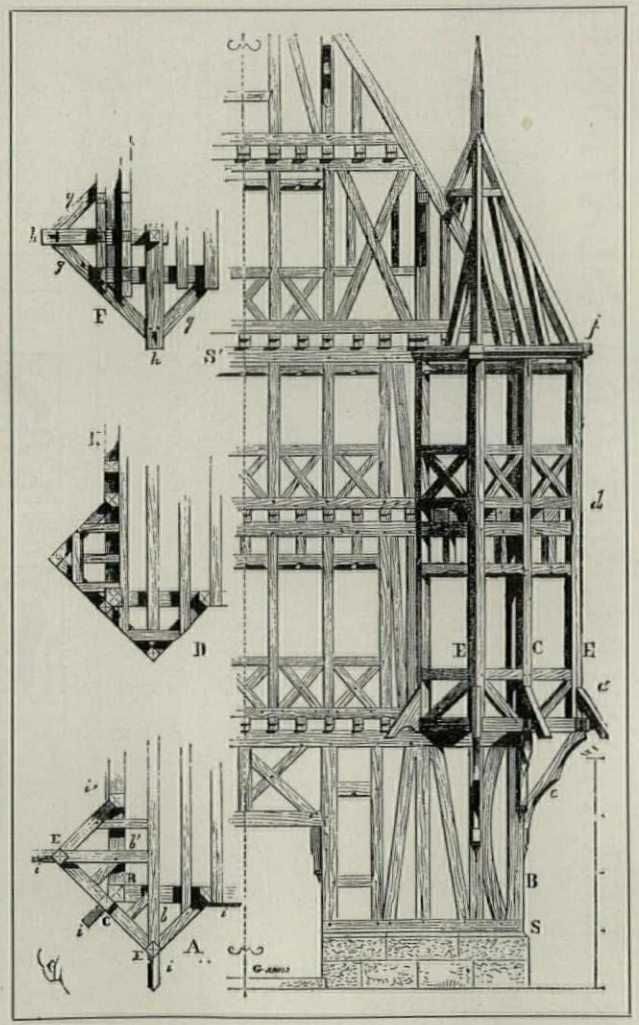
In the early half-timber work the heavy wood structural members were set only at right angles and the posts halved into sills and plates. End posts were rarely used in this early work, but the half-timber work was



An early French half-timber house showing how the framing was fitted in between the stone party walls which projected forward. The framing of this period was of large timbers.

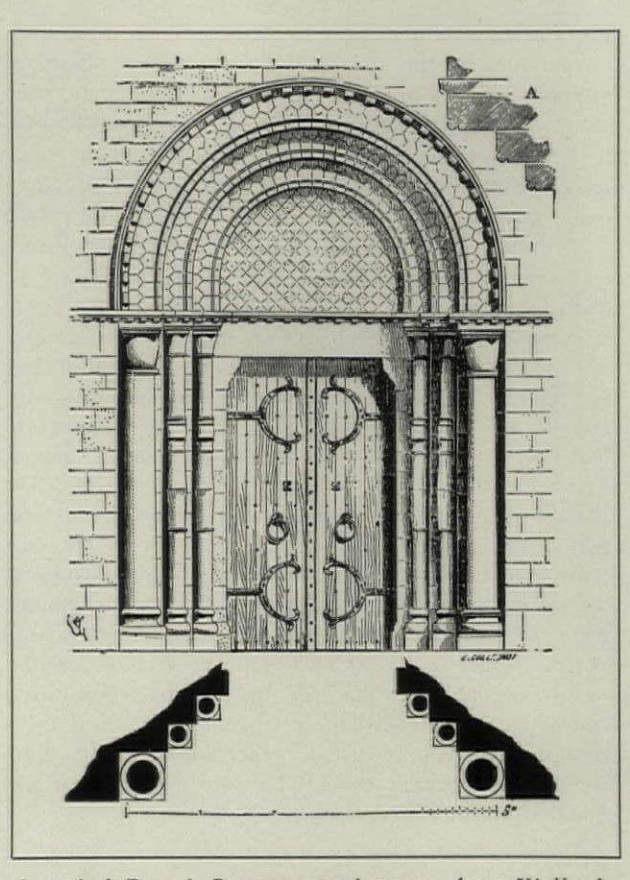


A later and more advanced type of half-timber work showing lighter members and also that the entire front was of framing, the ends of the party walls here being concealed.

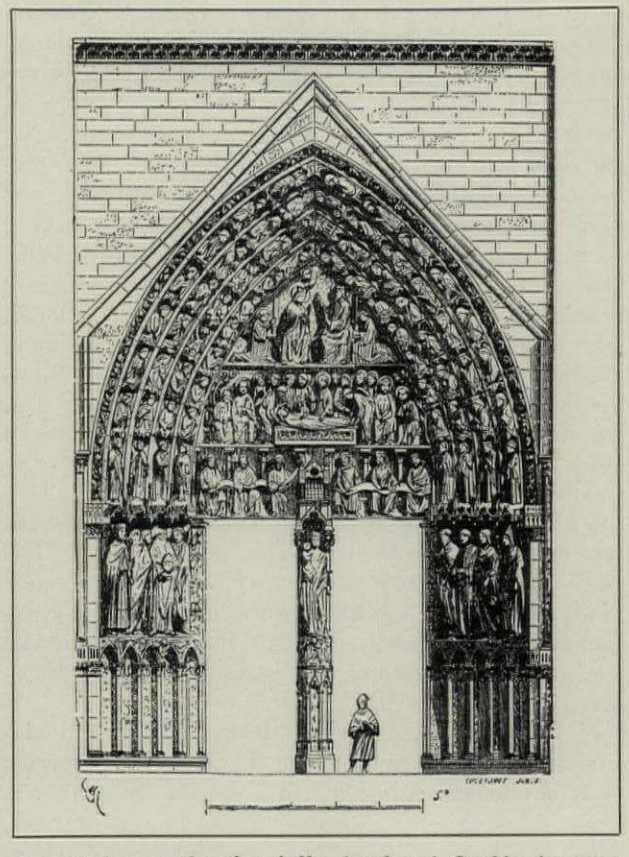


A still later development in French half-timber framing, made up of many small members. This period is also characterized by the use of a great variety of projecting bays and turrets at the corners.

ILLUSTRATIONS FROM VIOLLET-LE-DUC'S "DICTIONARY OF FRENCH ARCHITECTURE," VOLUME 7



A typical French Romanesque doorway, from Viollet-le-Duc's article on "Doorways," in his "Dictionary of French Architecture," Vol. 7.



A typical example of a fully developed Gothic doorway, from Viollet-le-Duc's "Dictionary of French Architecture," Vol. 7.

set between the two projecting ends of the masonry side walls. A well developed example of this type is that of an old house at Dreux, shown restored here. A great amount of labor was evidently expended upon the construction of this framework, for it was all of heavy timbers and very carefully joined. Joints of many different types were used, indicating that even at this early period half-timber framing was a highly developed art.

By the end of the XII Century lighter and more economical methods of framing are to be found. The end walls and gables of stone are all replaced by half-timber. The upper stories are often corbelled out. Details showing the method of framing are given here. In a three-story house the corner posts were usually eight or nine inches square; intermediate posts six or seven inches square; floor beams were placed about three feet on centers and these carried the lighter framing of the floor. Swaying of the frame was prevented by strong corner braces and X braces below the window sills.

Viollet-le-Duc was perhaps the best authority of his time concerning the use of color on the architectural monuments of the Middle Ages. Consequently his extended discourse, in this volume, on painting and its relation to architecture is one of special interest to the architect. From the time of the Renaissance on down to the present, color in architecture has been increasingly neglected, even to the point where it was questioned whether the architects of the Mediæval Period ever used color to any extent on their structures, but in recent years the subject has been more completely revived. Viollet-le-Duc's study has been quite extensive and his discussion of painting is well worth studying. The translation covers more than fifty pages, and the original contains twenty-one illustrations. Unfortunately, however, these are not in color, but are diagrammatic showing how the color areas were divided.

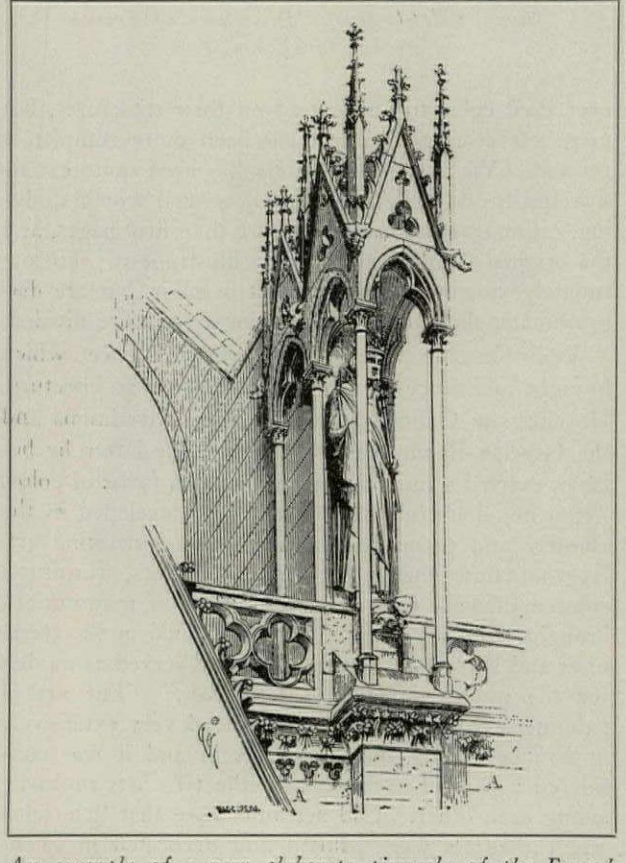
Viollet-le-Duc traces the early influence which brought to France the art of painting her architecture. He cites the Gallo-Roman and Italian traditions and the Grecian-Byzantine influences. The latter he believes exerted a most potent influence in favor of color. "It is not doubtful that this art was developed in the cloisters and proceeded from Grecian-Byzantine art. At that time the most beautiful fabrics, furniture, colored utensils, even a great number of manuscripts, brought from the Orient were contained in the treasuries and libraries of monasteries, and served as models for the monks devoted to art work." The art of painting seems to have been practiced very extensively in France during the Middle Ages and it was considered a part of architecture—the two arts mutually aiding each other. Old accounts state that "churches and cathedrals were painted and decorated in splendor." It is recorded that when Bishop Hincman was rebuilding the cathedral of Rheims he "ornamented the vaults by paintings." Viollet-le-Duc found evidence also that the architects of this period, like the ancients, also painted the sculpture of the interior and

often that of the exterior of their edifices. Wherever an interior was painted, the "entire surface was painted, including the sculpture." He also states that "decorative painting is not only applied to the surfaces of interiors, but it plays an important part on the exterior of edifices. The façade of Notre Dame of Paris presents numerous traces of painting and gliding, not laid on the bare walls, but on mouldings, columns, ornamental sculptures, and statuary. One can make the same observation on the cathedral of Amiens." He then describes in detail the various parts colored, the colors used, their intensity, methods of outlining figures, gilding, etc., and cites many examples. Altogether, the article on painting is a most valuable one, being the result of many years of research by one who had the opportunity of carefully examining the original structures.

Those interested in church design will find the discussion of *piers*, by Viollet-le-Duc, to be of value. The use and development of the pier systems, in French Romanesque and Gothic architecture, is carefully examined in every phase, the true function shown, and the proper architectural expression indicated in drawings.

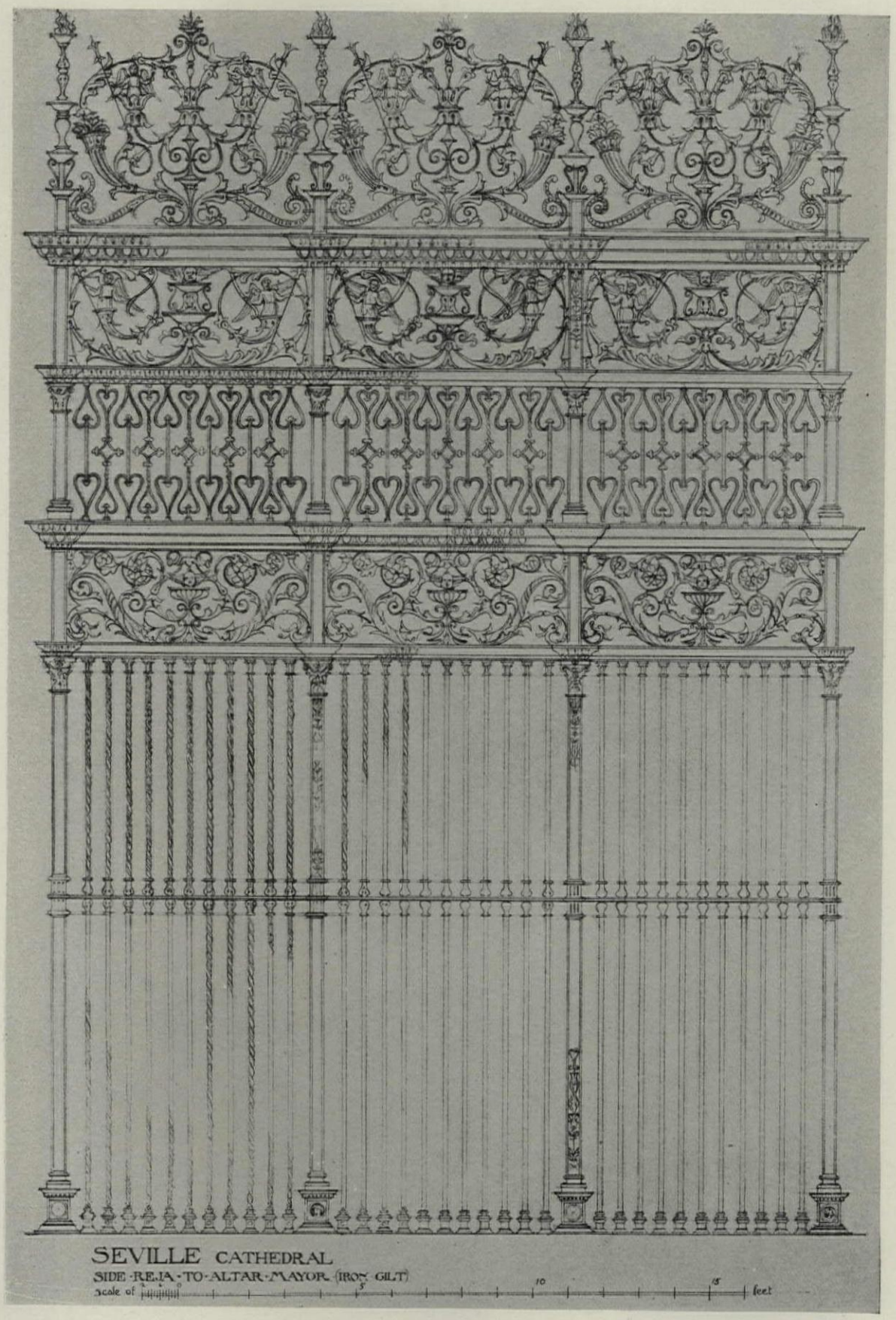
The *pinnacle* is another of the architectural elements of the French Gothic of the Middle Ages which was developed because it had a specific use, and was not a mere ornament as it so often becomes in modern adaptations of the Gothic. "Like all architectural members of that time, pinnacles fulfil a function; they secure the stability of vertical supports by their weight. The brilliant epoch of the pinnacle came when architects began to erect flying buttresses." It being necessary to add a load at the upper part of the buttresses, the French builders made it a "beautiful necessity," consequently the pinnacles became a logical decorative feature, growing out of construction.

Another interesting subject discussed at some length by Viollet-le-Duc is that of the *pont*—or bridge—of the Middle Ages. It is a valuable and inspiring subject, in that it reminds us of a phase of architecture that has been almost lost to the modern architect. From the time of the Romans on down through the Middle Ages and the Renaissance, bridge design was within the domain of the architect, but in the past century it fell increasingly to the engineer, and utility, economy, and speed of construction were paramount, while the æsthetic qualities were often entirely neglected. Only in recent years has the architect in this country regained his place in this field of architectural endeavor. Viollet-le-Duc's discourse on bridges is well worth reading just for the inspiration it offers architects, especially those who are interested in this phase of architectural design.



An example of a very elaborate pinnacle of the French Gothic period, also illustrating how the French beautified necessary structural members, from Viollet-le-Duc's "Dictionary of French Architecture," Vol. 7.

The full-blown cathedral porch of the Gothic period, showing how the French beautified a common necessity. From Viollet-le-Duc's article on the "Porch" in his "Dictionary of French Architecture," Vol. 7.



RENAISSANCE ARCHITECTURE AND ORNAMENT IN SPAIN

A PLATE FROM THE WORK BY ANDREW N. PRENTICE

PENCIL POINTS FOR NOVEMBER, 1930
VOLUME XI NUMBER 11

"Before the fall of the choir, the screens in Seville Cathedral were the most splendid in Spain, both in size and magnificence. The example given is one of the lateral screens to the Capilla Mayor, wrought by Sancho Muñoz in 1518, and although not so high and elaborate as that facing the high altar, it is of great beauty. The twisted pillars are of solid iron, and the cornices are formed of hammered iron plates. This screen is entirely gilded from top to bottom."

A. N. PRENTICE.

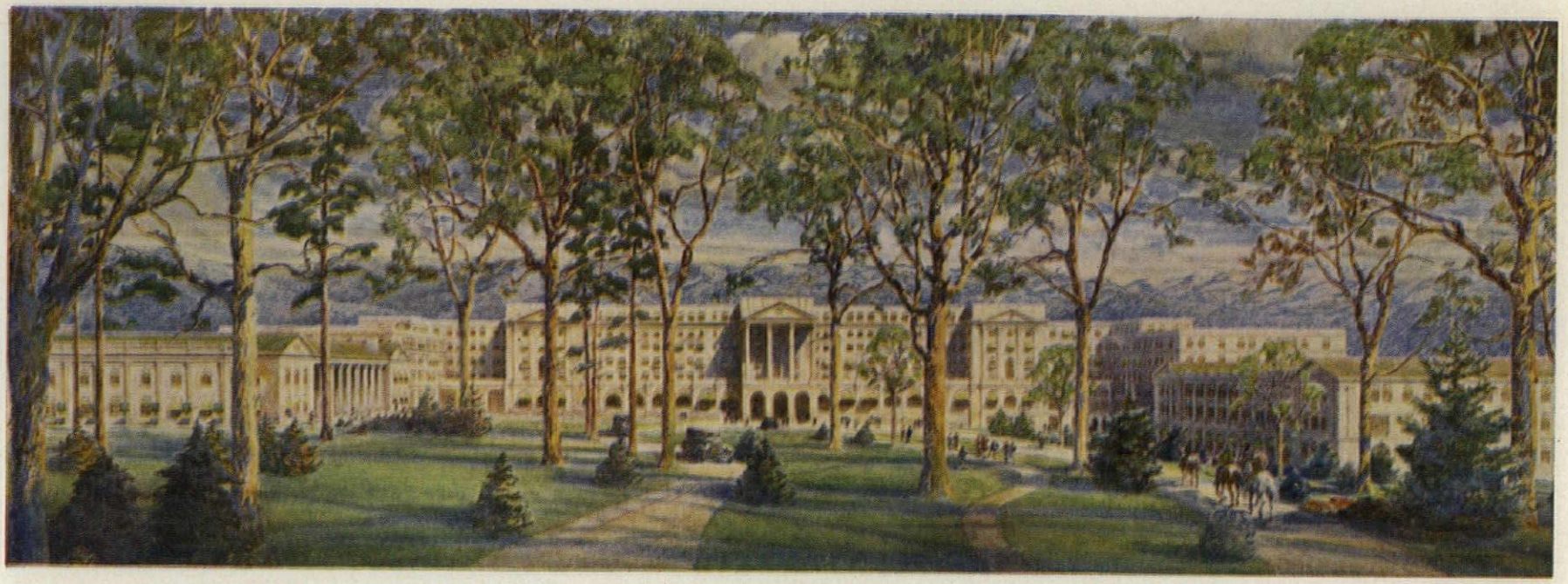
RESIDENCE AT BEVERLY HILLS, CALIFORNIA—KOERNER AND GAGE, ARCHITECTS

FROM A RENDERING IN TRANSPARENT AND OPAQUE COLOR BY ROBERT LOCKWOOD

PENCIL POINTS
(November, 1930)

PENCIL POINTS SERIES
of
COLOR PLATES

At the time this drawing was made, Mr. Lockwood was experimenting with washes, using body color (no transparent color) thinly, like water, laying wash over wash, building up tones. The perspective layout was first outlined in ink, freehand, on brown cardboard. Color was applied to all parts of the drawing at once, establishing a general "key." Then, after working a bit on the foliage, windows, etc., a heavy wash of burnt sienna with a little blue in it was run down over the entire assemblage of body color which settled it in this case in a rather pleasing way. Doing this with thin body color over heavy is a delicate stunt because the heavy color sometimes lifts, but when successful it gives a good effect. It is necessary to use a very full puddle and work quickly "with extreme care and considerable recklessness" to quote the artist. As a finishing touch the building, roof, and bits of the foliage were painted up with heavy color. The sky was given a final coat of cobalt, mauve, and black. The original measured 24½" x 13".



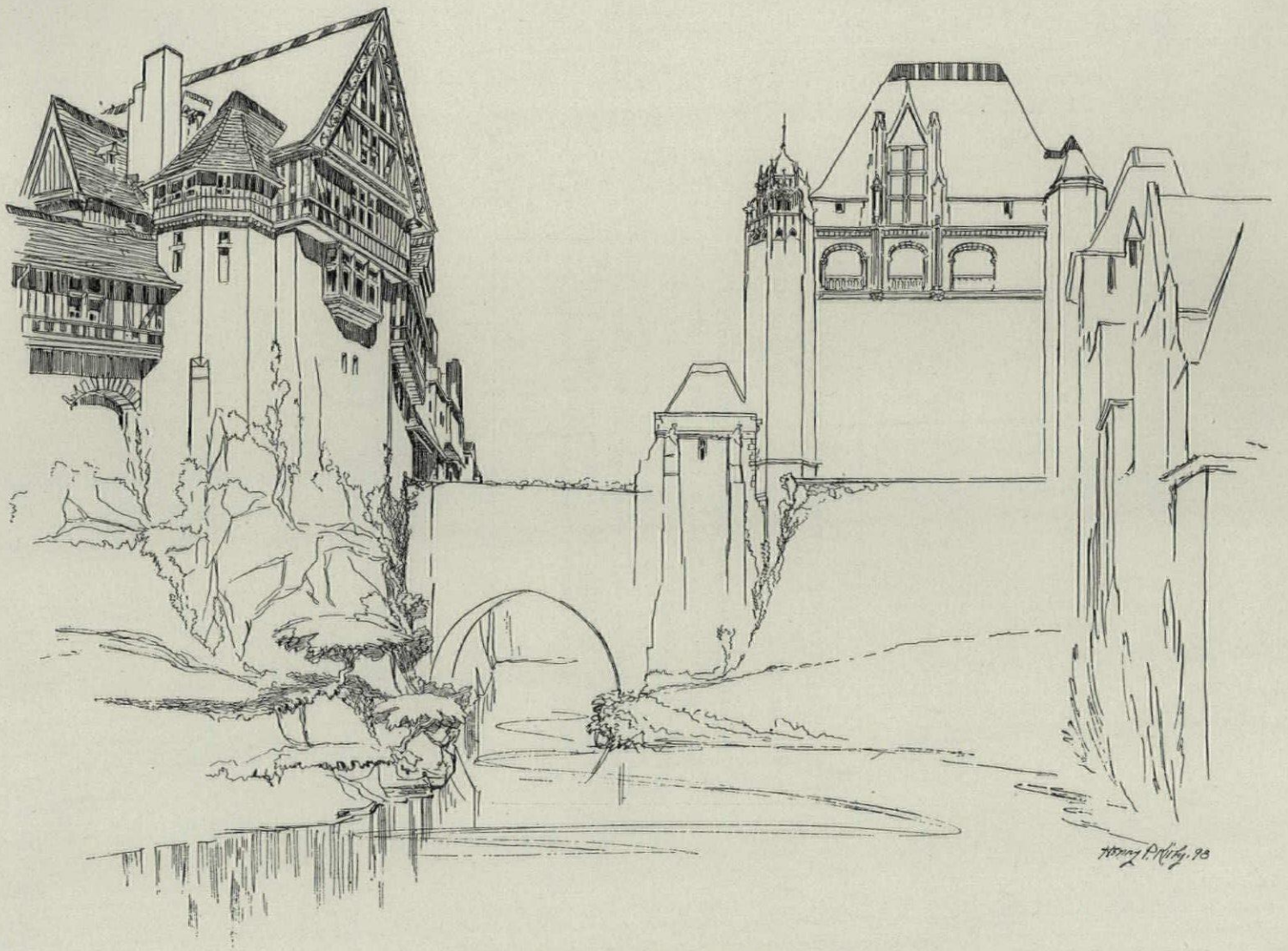
NEW GREENBRIER HOTEL, WHITE SULPHUR SPRINGS, WEST VIRGINIA—PHILIP L. SMALL, INC., ARCHITECTS

FROM A RENDERING IN WATER COLOR

PENCIL POINTS
(November, 1930)

PENCIL POINTS SERIES
of
COLOR PLATES

This rendering was made by a well known draftsman who, for good reasons of his own, wishes to remain anonymous. It was very large, the original measuring about 72″ wide. It is reproduced as a suggestion of a way for presenting large schemes where the horizontal lines of the architecture may be advantageously broken up by the foreground trees. In this particular case the natural setting for the buildings lent itself quite well to this type of composition.

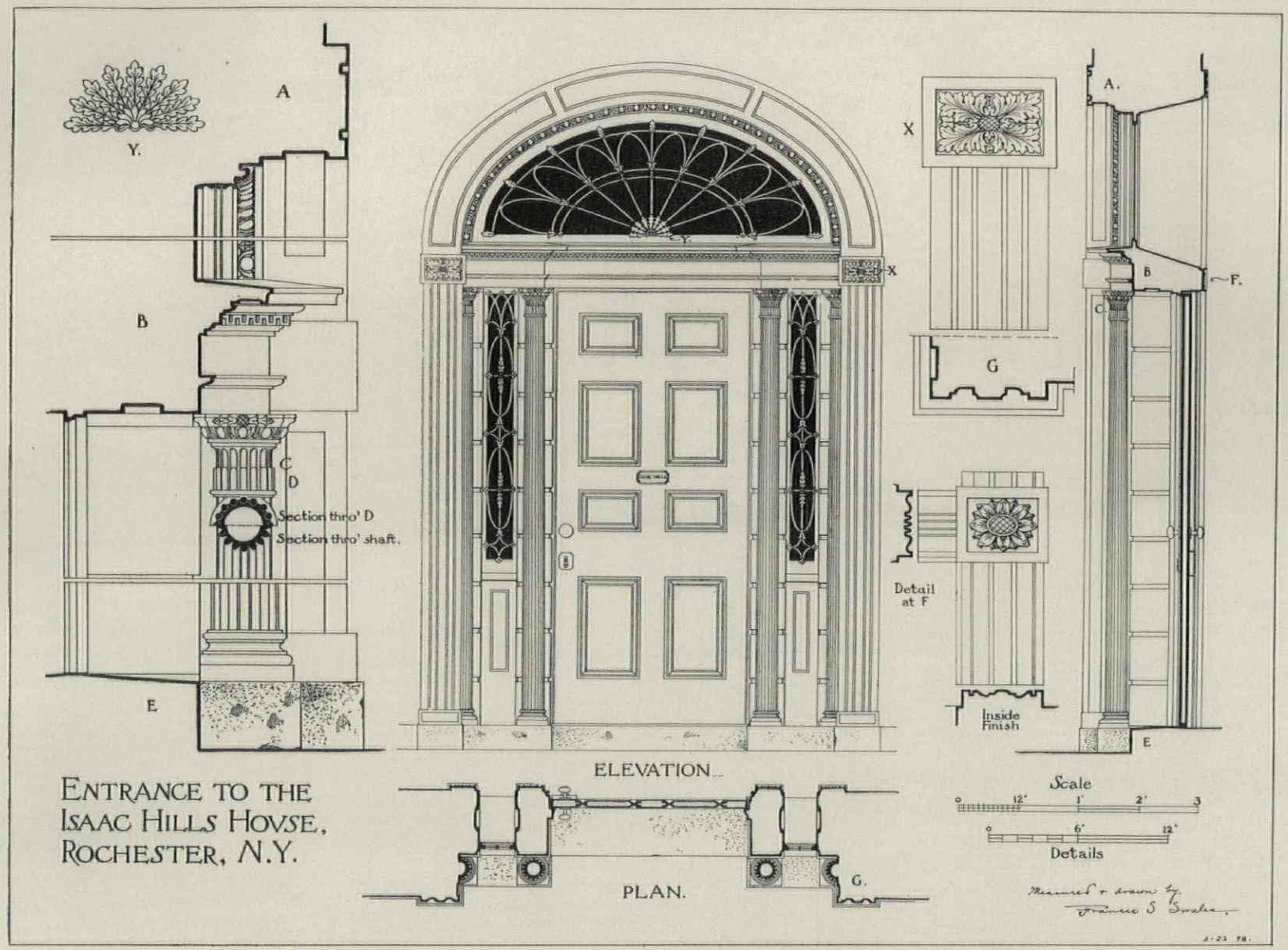


FROM A PEN AND INK DRAWING BY HENRY P. KIRBY

A COMPOSITION IN ARCHITECTURAL FORMS

PENCIL POINTS FOR NOVEMBER, 1930
VOLUME XI NUMBER 11

This sensitive pen and ink drawing by Henry P. Kirby was originally published by the Cutler Manufacturing Company as part of a series of plates prepared for them for architects. This particular reproduction was made from one of the plates in possession of Arthur M. Duncan of New York through whose courtesy we are able to present it here.



ENTRANCE TO THE ISAAC HILLS HOUSE, ROCHESTER, N.Y.

FROM A MEASURED DRAWING BY FRANCIS S. SWALES

ENTRANCE TO THE ISAAC HILLS HOUSE, ROCHESTER, NEW YORK

PENCIL POINTS FOR NOVEMBER, 1930
VOLUME XI NUMBER 11

This drawing was made for Ware's "The Georgian Period" in 1898. Aside from being a bit of fine draftsmanship it preserves a record of a graceful example of Colonial doorway and its publication here is therefore doubly useful.

FROM A DRYPOINT BY MORRIS HENRY HOBBS

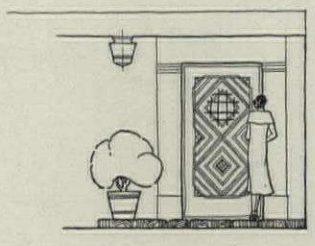
"NOTRE DAME, PARIS"

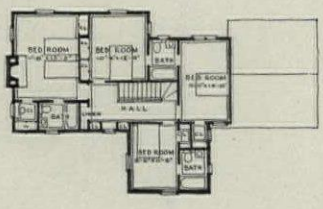
PENCIL POINTS FOR NOVEMBER, 1930
VOLUME XI NUMBER 11

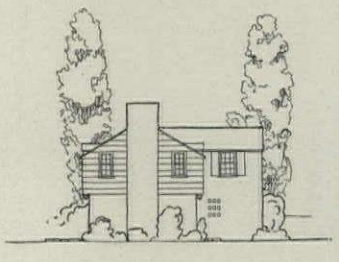
On this plate we have reproduced a drypoint by Morris Henry Hobbs, an Evanston, Illinois, architect who, in his spare time, turns out excellent prints such as this one. The original, which measures 7″ x 9″, is quite professional in quality.

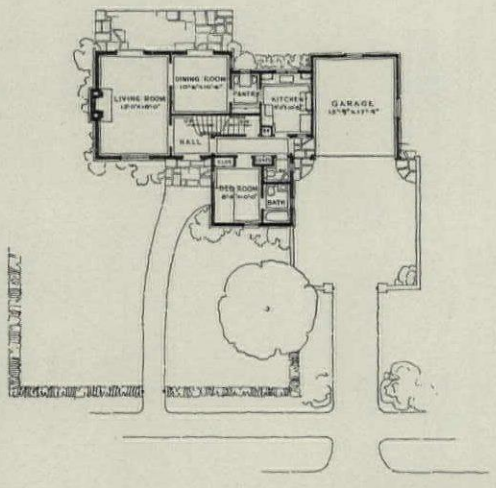
DESIGN FOR AN EIGHT-ROOM HOUSE

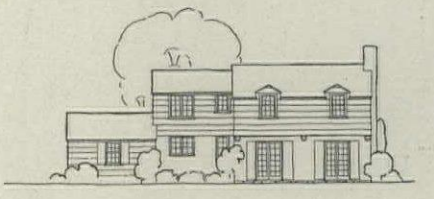
THE PENCIL POINTS COMPETITON

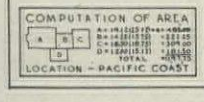


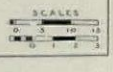






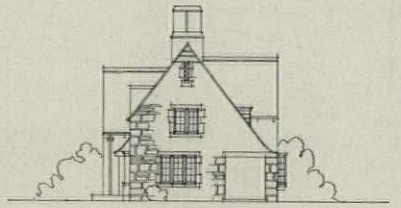




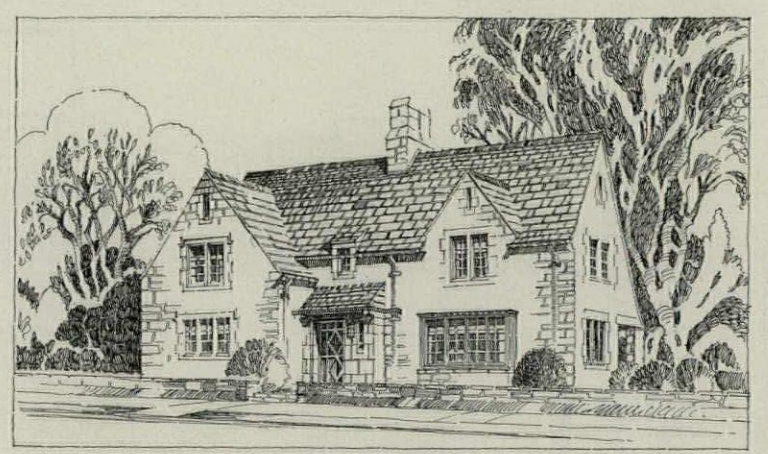


SUBMITTED BY GALEN W. BENTLEY, NEW YORK

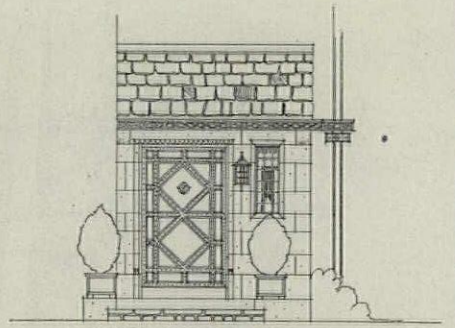
PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



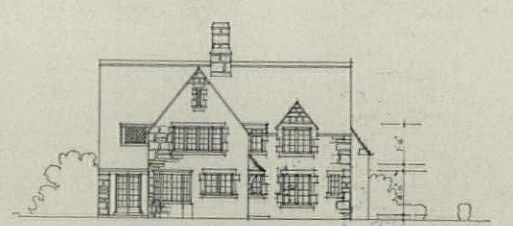
SIDE ELEVATION



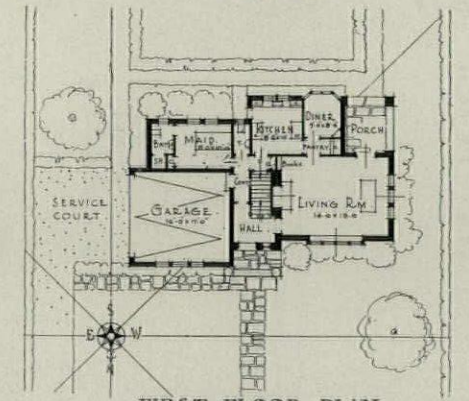
PERSPECTIVE
SCALE



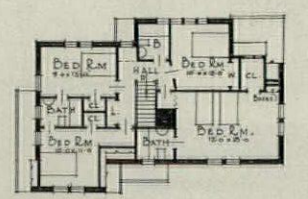
DETAIL OF ENTRANCE
SCALE



REAR ELEVATION



FIRST FLOOR PLAN



SECOND FLOOR PLAN

MULTEM ET PARVO

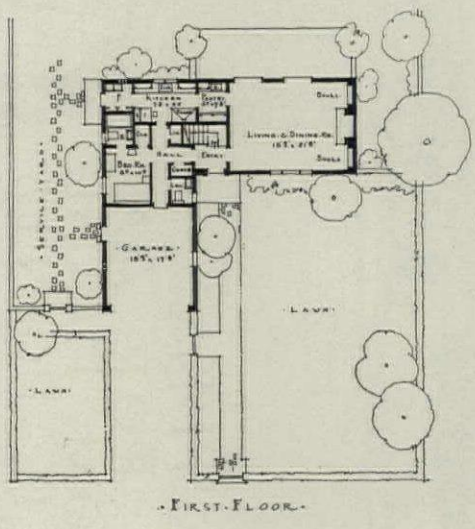
DESIGN FOR AN EIGHT ROOM HOUSE

THE PENCIL POINTS COMPETITION

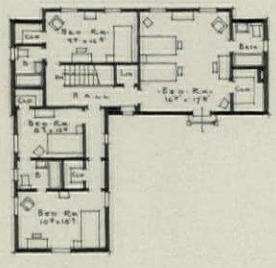
AREA OF HOUSE 877
" " GARAGE 323
TOTAL 1200 FT
TO BE BUILT IN THE NEW ENGLAND STATES

SUBMITTED BY WILLIAM C. BUNCE, DETROIT, MICHIGAN

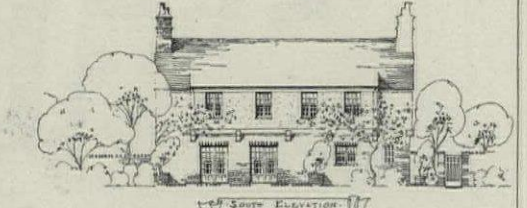
PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



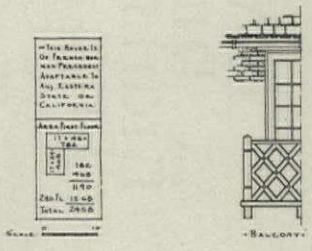
FIRST FLOOR



SECOND FLOOR



SOUTH ELEVATION



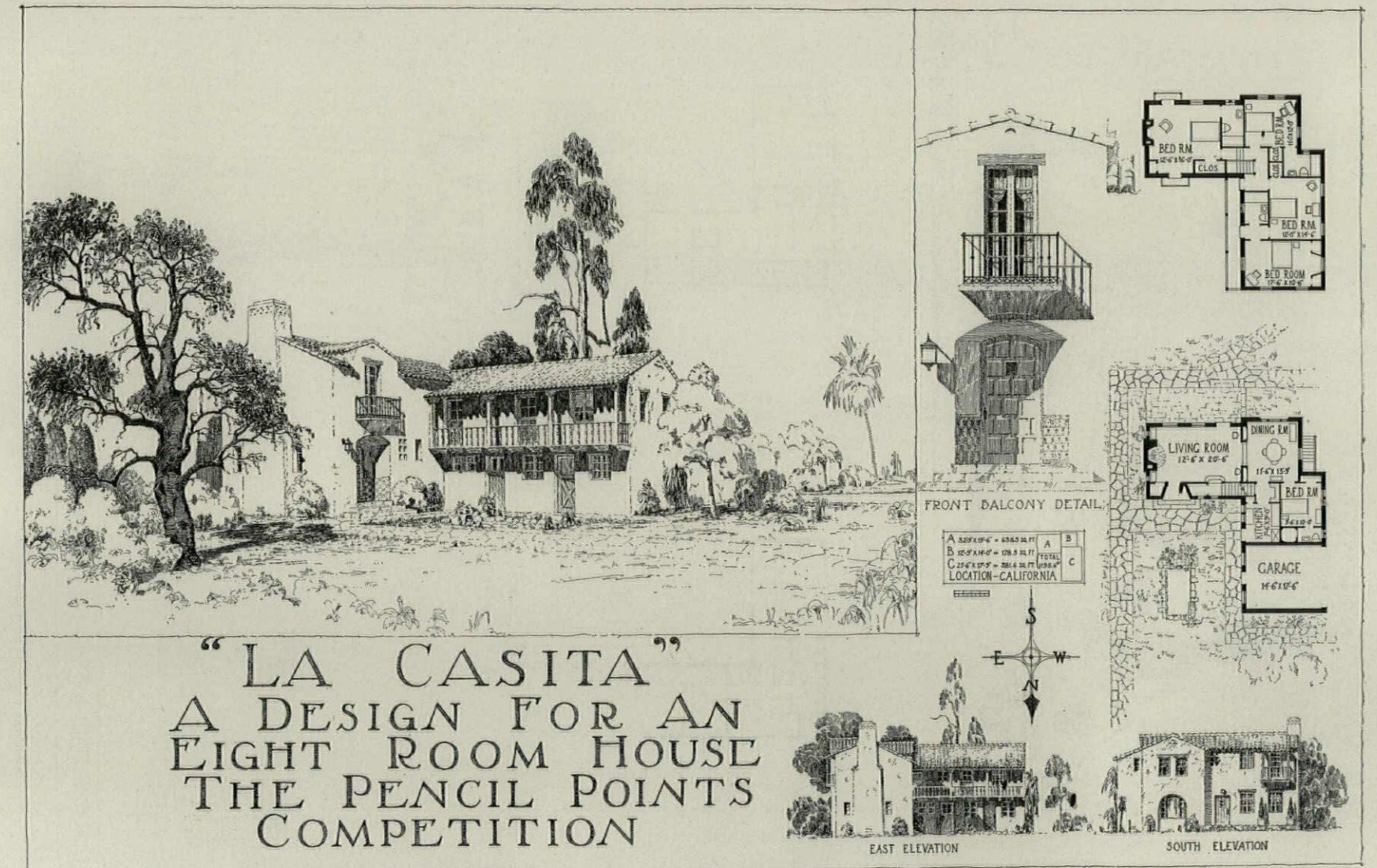
EAST ELEVATION

SUBMITTED BY

DESIGN FOR AN EIGHT ROOM HOUSE, THE PENCIL POINTS COMPETITION

SUBMITTED BY CHARLES H. HOLMSTROM, STATE COLLEGE, PENNSYLVANIA

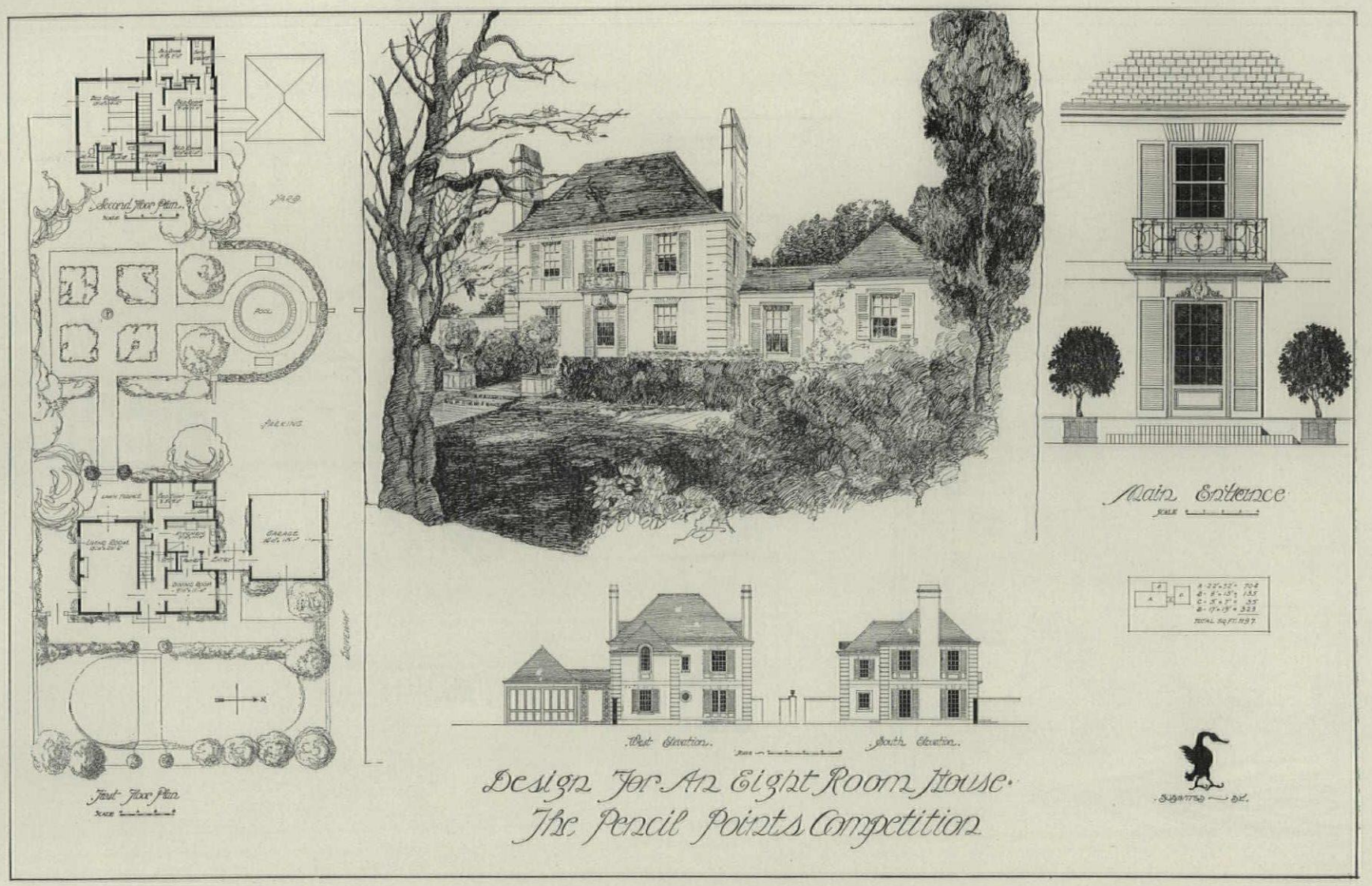
PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



"LA CASITA"
A DESIGN FOR AN EIGHT ROOM HOUSE THE PENCIL POINTS COMPETITION

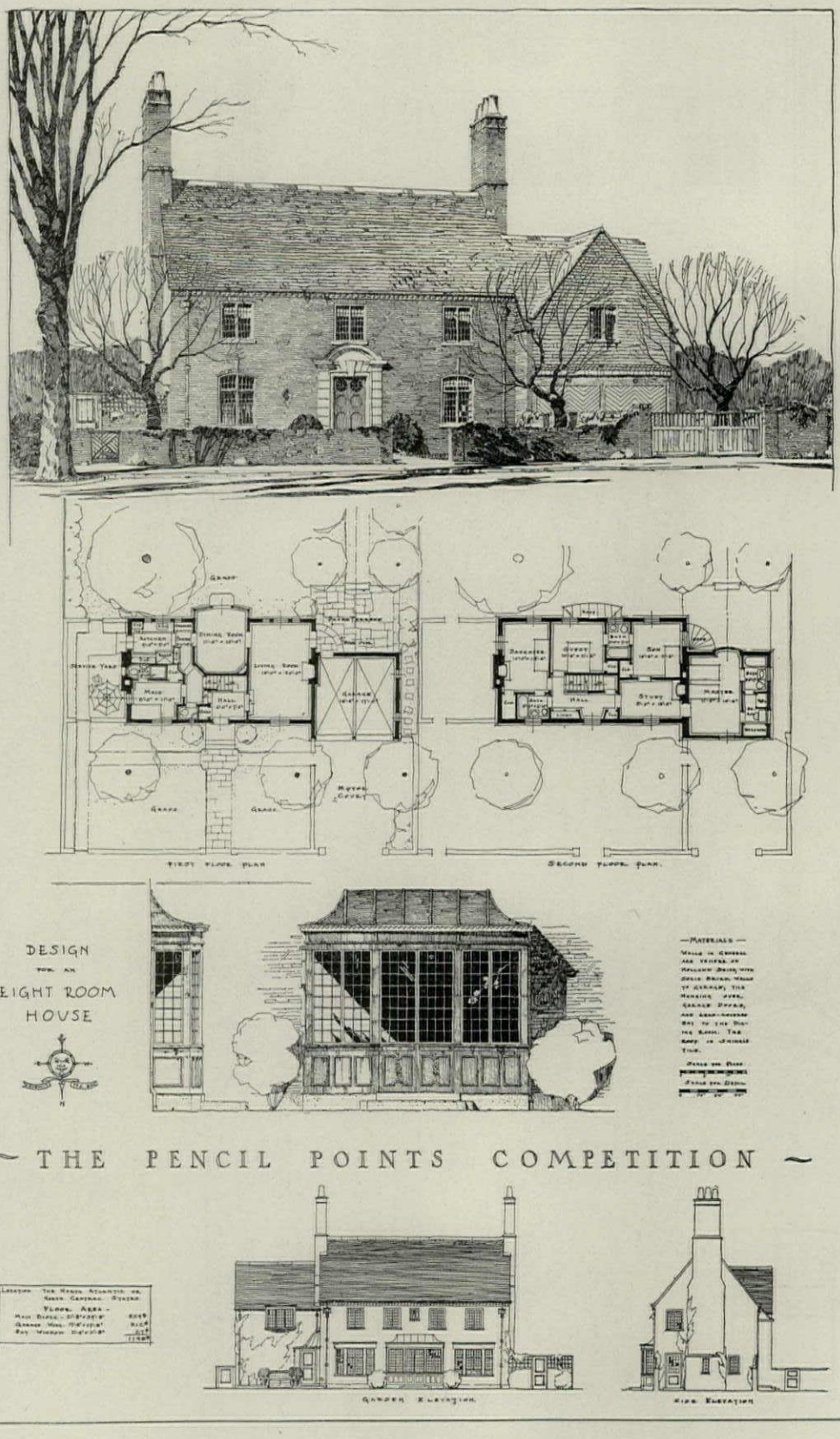
SUBMITTED BY CLARENCE H. RAWLINGS, PHILADELPHIA, PENNSYLVANIA

PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



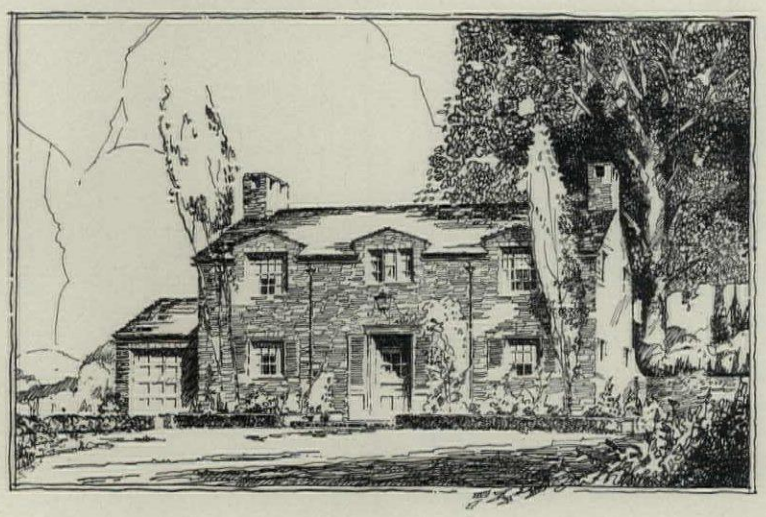
SUBMITTED BY JAMES GABRIEL RESH, NEW YORK

PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE

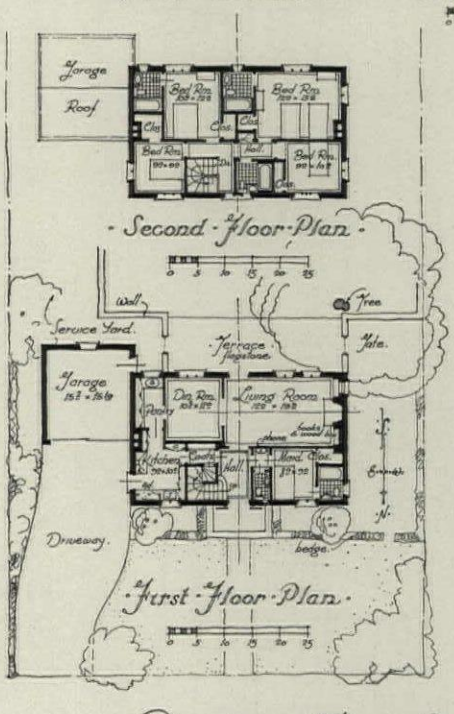


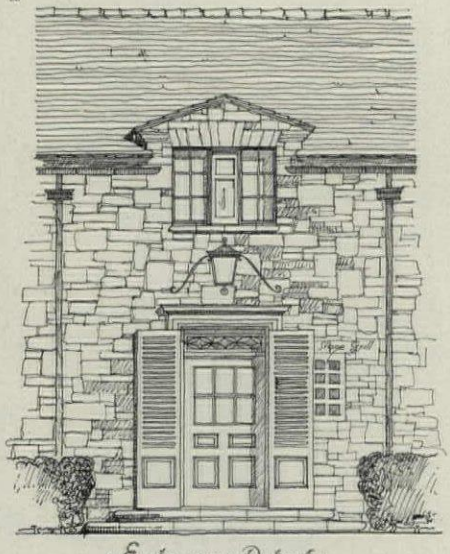
SUBMITTED BY FRANKLIN SCOTT, WHITE PLAINS, NEW YORK

PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



North Elevation · East Elevation · South Elevation





Entrance Detail

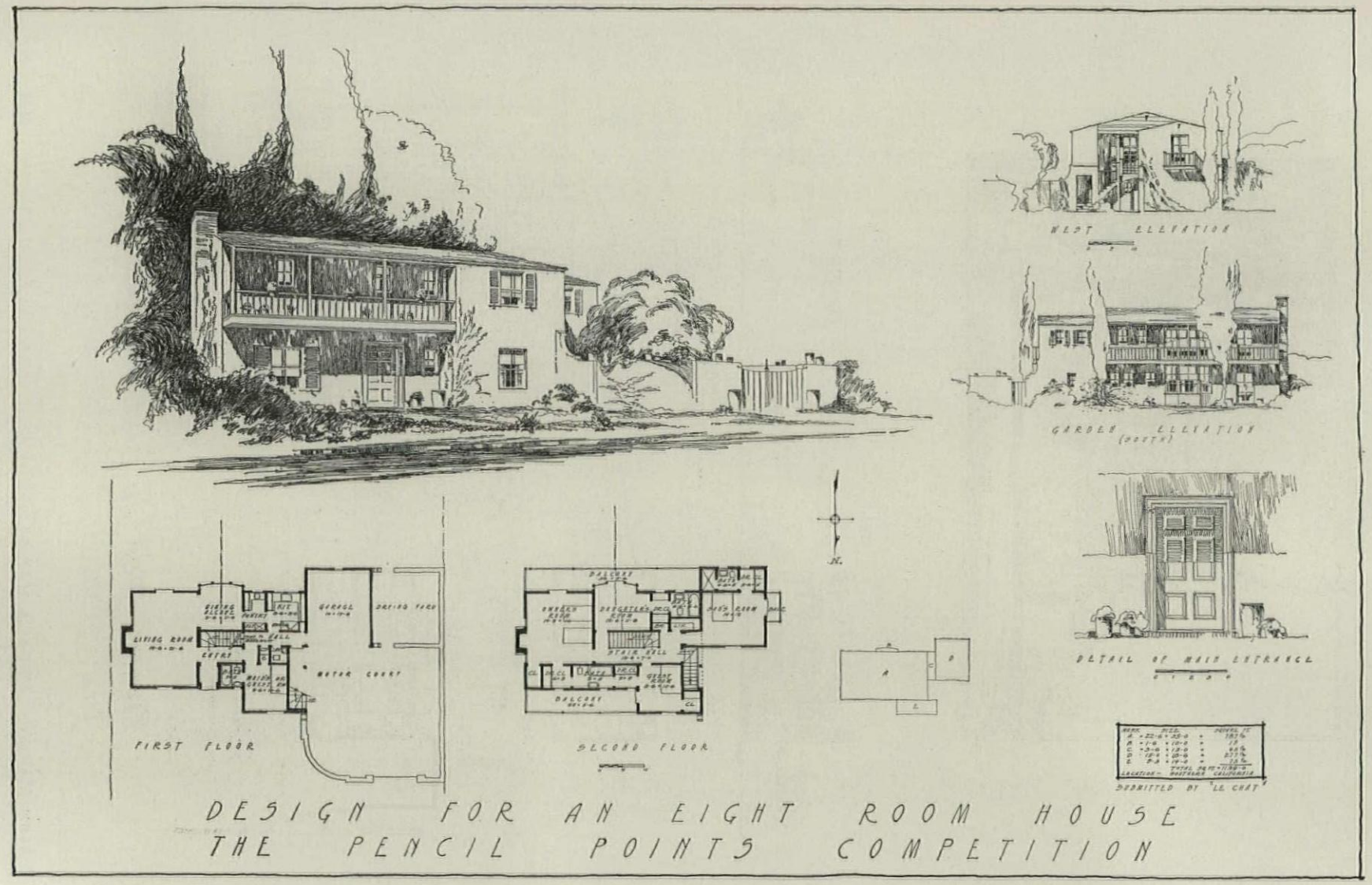
Submitted by
Pen Points

Area
Main House
Garage Part
Total
Location
Central or Eastern States

Design For An Eight-Room House
The Pencil Points Competition

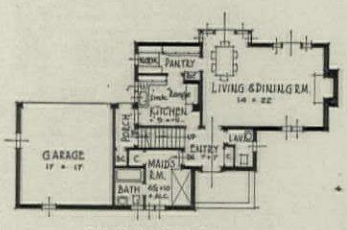
SUBMITTED BY C. RODERICK SPENCER AND JOHN JAMES LANDON, LOS ANGELES, CALIFORNIA

PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



SUBMITTED BY CLIFFORD TRUESDELL, JR., AND NORMAN THOMPSON, LOS ANGELES, CALIFORNIA

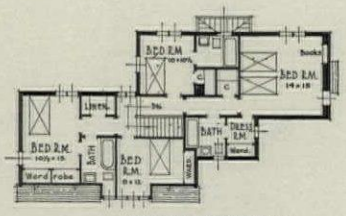
PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



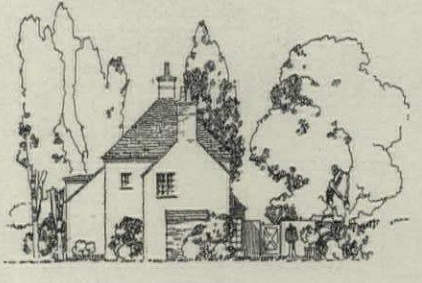
FIRST FLOOR PLAN

SUBMITTED BY

GRAPHIC SCALES
PLANS
DETAIL
PLOT

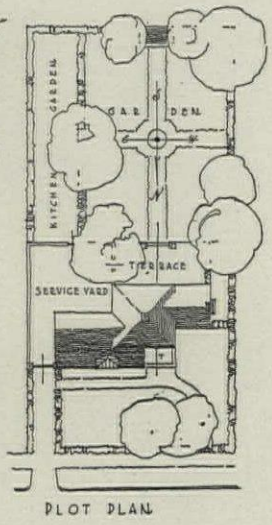


SECOND FLOOR PLAN



WEST ELEVATION

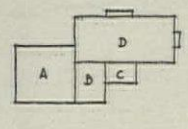
½ INCH SCALE DETAIL



PLOT PLAN

SOUTH ELEVATION

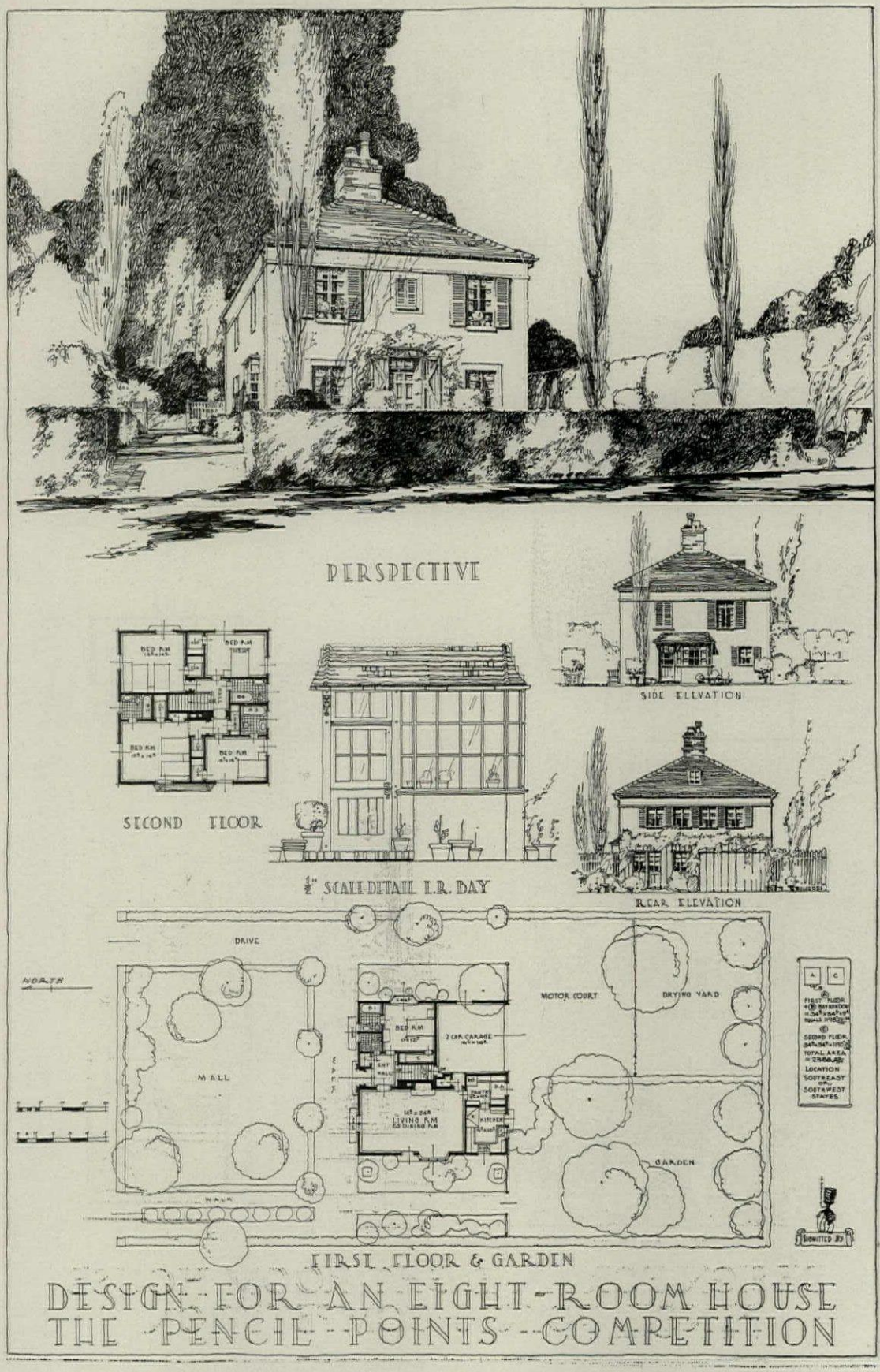
SQUARE FOOTAGE
A = 10×21 = 399" D = 15½ x 35 = 542½
B = 11×14 = 154 FIREPL + BAY = 27½
C = 7×11 = 77 TOTAL = 1200
GEOG. LOCATION = SO. CALIF.



DESIGN FOR AN EIGHT ROOM HOUSE
PENCIL POINTS COMPETITION

SUBMITTED BY LLOYD STEFFGEN, PASADENA, CALIFORNIA

PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE



SUBMITTED BY LYLE REYNOLDS WHEELER, HOLLYWOOD, CALIFORNIA

PENCIL POINTS COMPETITION FOR AN EIGHT-ROOM HOUSE

COMPETITION FOR THE GUY LOWELL MEMORIAL SCHOLARSHIP

THIS SCHOLARSHIP IS given in memory of Guy Lowell, 1870-1927, a distinguished architect, who believed in the importance of foreign study and travel, and who was a generous and sympathetic friend of all students.

The value of this scholarship is represented by an annual award of $1,000 to assist draftsmen, and students in schools of architecture whose previous preparation includes three years of office training, to benefit by six months' travel in foreign countries.

The competition is open to citizens of the United States of good character, who are between twenty-one and thirty-one years of age, and who have had at least three years of office experience.

The competition will be held the first Saturday and Sunday in February, 1931.

The scholarship is under the direction of a managing committee of three, composed of the Chairman of the Committee on Education of the Beaux-Arts Institute of Design, the Head of the Department of Architecture at the Massachusetts Institute of Technology, and a practicing architect in Boston.

Competitors are allowed to prepare their drawings wherever conditions conform to the requirements of the committee in charge, but these drawings must be sent to Boston for judgment.

All questions and applications should be addressed to and application blanks returned to Mr. H. P. Richmond, 12 West Street, Boston, Mass., on or before December 20th.

GEORGE BURDETT FORD

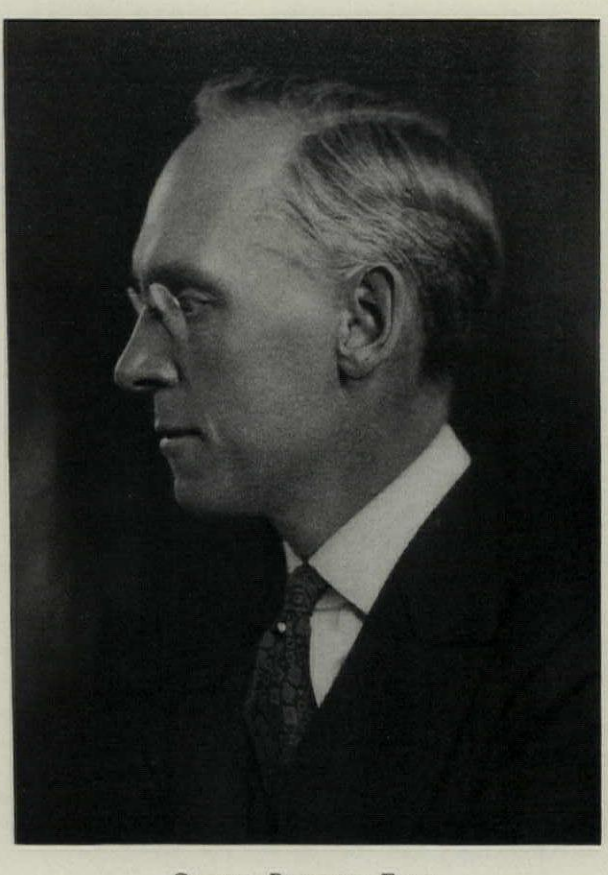
1879—1930

A STAR OF THE first magnitude in the galaxy of who's who in civic affairs has passed from view.

Son of a New England schoolmaster, Mr. Ford's brilliant record in architecture and city planning at home and abroad, as evidenced by the long list of his responsible connections with important national and international organizations, justifies the claim that he had a successful career in spite of the fact that its untimely ending at the age of fifty-one makes his remarkable record of achievement seem but a deep and broad foundation for that greater public helpfulness to which he aspired.

Endowed with unusual intelligence, his health, energy, honesty, industry, courage and ability to work with other people, combined with his shrewd estimate of his own capacity and limitations, are the important factors in his success. The absence of erratic and extravagant ideas in his work, a sort of inspired practicality, made his service to the world of a fundamental type to which communities turned with relief in preference to showy and speedy methods for producing results.

Mr. Ford's interest in city planning was aroused by research incidental to the preparation of his thesis design for *A Tenement in a Large City* at the Ecole des Beaux-Arts, Paris, 1907. His addresses and discussion at meetings of the National Conference on City Planning about twenty years ago were largely concerned with housing. At that time he was a member of the architectural firm of George B. Post & Sons, of New York and Cleveland, where he managed their branch office. Also at that time he was an associate member of the American Institute of



GEORGE BURDETT FORD

Architects and a member of its town planning committee. His efforts to further consideration of æsthetics met with opposition in city planning circles and it was with some reluctance that he acquiesced in the decision to stress the practical economic value of city planning; but when the decision was made to do so he supported it loyally for nearly a decade. Upon his election as president of the American City Planning Institute, however, a policy of open recognition of æsthetic and social values was adopted and since his administration closed these factors have also been recognized as valid reasons for city planning. Since his appointment in February, 1930, as General Director of the Regional Plan Association, Inc., of New York, he has had the ideal of civic design constantly in mind and although he felt that there are many practical considerations of an engineering nature that must precede any application of the principle of architectural control, nevertheless, he initiated through that organization many projects for civic embellishment in the New York region that display great ability as an architect. This broad service, together with his administrative ability, makes his death an incalculable loss to the architectural and city planning professions.

To the public Mr. Ford was always accessible and, in the opinion of the writer, would have been an excellent ambassador; as a fellow worker he was always open to suggestion and never spared himself; as a teacher he preferred the lecture platform and writing as a medium of expression rather than debate, with the result that personal salesmanship was not one of his accomplishments; as a friend he will be missed by the author of this humble tribute as an elder brother.

Chevalier de la Légion d'Honneur, in death we salute thee.—*Harry B. Brainerd.*

THE NEW YORK ARCHITECTURAL CLUB, INC.

Atelier News

The brush slingers in the Atelier of the New York Architectural Club are about to embark on another one of those successful annual costume dances, which in the past have always gone over with a bang.

This dance will be held in the lounge of the Club, 118 East 42nd Street, on Thanksgiving Eve, November 26, 1930.

The proceeds of this dance will be used to enlarge the atelier library, and supply other needs of equipment.

Tickets can be obtained at the Club.

John W. Knoble,
Massier.

A COMPETITION FOR SMALL SCULPTURES

A Competition for Small Sculptures, to be executed in Rosenthal china, has been announced by the Art Alliance of America.

A first prize of $1,500. will be awarded, a second prize of $750., a third prize of $500., and two special awards, one of $500. and one of $250., will be given.

The competition is open to all residents of the United States. Models will be received by the Art Alliance of America between January 14th and 20th, 1931. For a copy of the program of the competition write to the Secretary, Ceramic Sculpture Design Competition, Art Alliance of America, 65 East 56th Street, New York.

LOS ANGELES COLLEGE OF ARCHITECTURE AND ENGINEERING

The Los Angeles College of Architecture and Engineering commenced activities on September 2nd, last.

The purpose of this college is to give a complete system of practical training to prepare students as architectural and engineering draftsmen, to provide advanced instruction for those already qualified as draftsmen who wish to extend their knowledge, and to prepare candidates for the State Board Examination necessary to secure a license to practice architecture or engineering.

The course includes architecture, structural engineering, and civil engineering.

In addition to the day course evening classes are held. The College is located at 2256 Venice Boulevard, Los Angeles, California.

ONE OF THE DRAFTING ROOMS OF LOS ANGELES COLLEGE OF ARCHITECTURE AND ENGINEERING

"A WAR MEMORIAL," LILY HALL McLUCKIE, SCULPTOR

The design for a War Memorial shown above has been accepted as the Gold Star Mothers' Memorial for New York State. Dr. Emma L. Balcom, the National Organizer of the Gold Star Mothers, says that the Committee hopes to place the monument in Washington, D. C., as a national memorial. This model was shown at the Spring Exhibition of the National Academy of Design, 1930.

PRATT ARCHITECTURAL CLUB, INC.

The Pratt Architectural Club's annual fall dinner will be held at the Fraternity Club's Building, New York, on Wednesday evening, November 19th. Mr. Ralph Walker, of the firm of Voorhees, Gmelin, and Walker, will be the speaker of the evening.

The Club's annual smoker was held at the Fraternity Club's Building, October 22nd. Over a hundred members turned out. Mr. Kenneth Reid, Associate Editor of Pencil Points, as guest of the Club, concluded the program with a brief talk.

THE ARCHITECTURAL SKETCH CLUB OF CHICAGO

The Architectural Sketch Club is one of the oldest professional organizations in Chicago, but it caters primarily to the younger draftsmen and students and its aims are almost entirely educational. The Club is forty-six years old, having been organized in 1884.

Its principal activity is the Atelier which is presided over by Patrons A. S. Adams and Donald S. Nelson.

In addition to the regular competition of the Beaux-Arts Institute of Design, the Atelier conducts several prize competitions yearly and in the Spring conducts the Annual Foreign Scholarship, which provides $1,200, through the generosity of the Chicago Chapter A.I.A., Illinois Society of Architects, and the Chicago Architects Club.

Minor activities of the club include lectures and talks by prominent men in the architectural and building field and social affairs for the club members and their friends twice a year.

There is a three-months' class in structural design to aid members in passing the State Board Examination for Architects' Registration.

A quota of about three hundred and thirty active, senior, and non-resident members indicates that the club fills a definite need in Chicago's architectural life and that the club is striving to do its share in raising the standard of architectural design and practice in Chicago.

A NEW BOOK AND PRINT SHOP IN THE CITY OF NEW YORK

THE ENGLISH BOOK SHOP has recently opened at No. 55 East 55th Street. The stock consists of rare books, private press issues, first editions of modern authors, also a selection of current English and American books.

In addition to the books there will be found at this delightful shop a fine selection of prints, both European and American, old as well as modern.

The English Book Shop offers a service which should appeal to collectors located at a distance from New York. Special orders are solicited from collectors for rare items, especially those of European origin, as the proprietors have unusual facilities for locating and securing rare books and prints. Correspondence is invited.

The English Book Shop will also hold a series of small exhibitions during the season, to be announced later, the first devoted to all the books illustrated by Mr. Rockwell Kent, with a selection of original drawings.

NEW YORK SOCIETY OF ARCHITECTS

THE NEW YORK SOCIETY OF ARCHITECTS has extended its activities so as to admit into its body an auxiliary organization or Junior League. This is intended to be of benefit to the draftsmen or junior architects who are not yet registered under the law.

The object of this new organization is principally educational and partly social. A program for the winter season covering the following subjects has been arranged: *The Education of an Architect, The Functions of an Architect and his Relations to the Client, Modern Tendencies in Design, Methods of Studying a Project Beginning with the Sketches, Taking of Estimates and General Practice of Letting Contracts, Supervision of Work in Field, Technique of Writing Specifications, Office Administration, Organization and Cost of Producing Drawings, Selection of Building Materials, Legal Standpoint of the Profession.* The work is in the hands of Colonel Louis E. Jallade. He has selected a group of architect leaders in the City to give these talks. These men have been chosen because of their marked ability in the particular subject on which they are to speak.

Admission to the lectures is open to all draftsmen who are interested applying to Louis E. Jallade, 15 East 47th Street, New York, N. Y.

The first lecture covered *The Education of an Architect*, and was given by Mr. Coe, formerly associated with Carrere & Hastings. The lecture was held at the Murray Hill Hotel, New York.

The next talk will be given by Mr. Arthur Holden on December 16th.

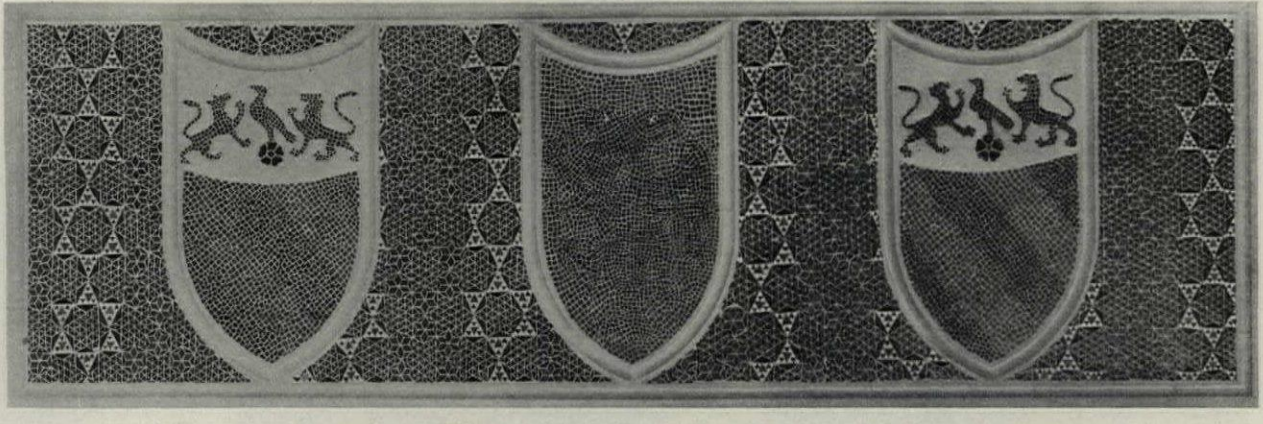
ENGINEERS' BOWLING LEAGUE OF CHICAGO

STANDING OF THE TEAMS

		W	L	Total	Av.
1	Holabird & Root, No. 1	3	0	2393	798
2	Utilities Power & Light	3	0	2306	769
3	J. H. Heuser	3	0	2290	763
4	City of Chicago Hydraulics	3	0	2183	729
5	W. H. Keen & Company	2	1	2424	808
6	Delta-Star Electric Company	2	1	2391	797
7	Mississippi Valley Engineers	2	1	2317	772
8	Allen & Garcia	2	1	2104	701
9	City Engineers	2	1	2072	691
10	Mississippi Valley Drafting	2	1	2039	680
11	Sargent & Lundy, No. 1	1	2	2453	817
12	Sargent & Lundy, No. 2	1	2	2302	767
13	Roberts & Schaeffer, No. 1	1	2	2243	747
14	American Association of Engineers	1	2	2124	708
15	Burrell Engineering Company	1	2	2030	677
16	Roberts & Schaeffer, No. 2	1	2	1883	624
17	Bethlehem Steel Company	0	3	2232	744
18	American Bridge Company	0	3	2206	735
19	Childs & Smith	0	3	2010	670
20	Holabird & Root, No. 2	0	3	2006	668

ACKNOWLEDGEMENT

THE DRYPOINT of Notre Dame by Morris Henry Hobbs, reproduced as one of the plates in this issue, is presented through the courtesy of Francis H. Robertson, Inc. This information was received too late to be inserted in the usual place under the plate.

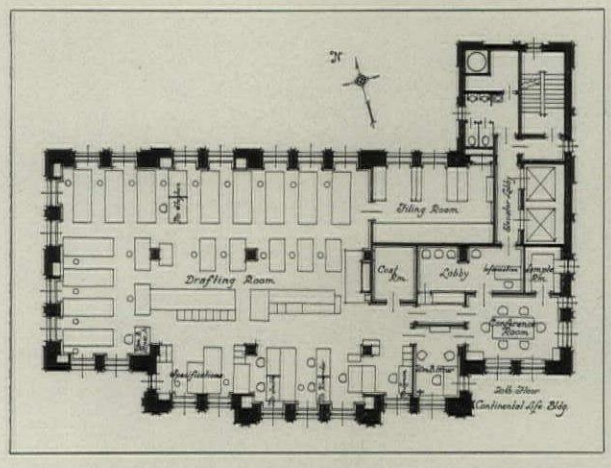


COPY OF MOSAICS IN CHURCH OF SANTA MARIA IN ARACOELI, ROME—BY LOUIS PIROLA

This drawing was made by Mr. Pirola while in Europe on the Chicago Architectural Club Scholarship. The original measures 6'6" x 2'4". The patterns of the mosaics were transferred by covering the original with detail paper and rubbing over it with lead. The sections were then mounted upon a large sheet of paper and painted. Each tessera was painted separately with tempera mixed with gum arabic and glycerine to keep the colors raised when dry and retain a gloss. The mortar joints between the tesseræ were painted in flat with gouache.

OFFICE ORGANIZATION OF WM. B. ITTNER, INC., ARCHITECTS AND ENGINEERS, ST. LOUIS, MISSOURI

1—*R. G. Alexander, Struct. Eng. (Vice Pres. and Management)*, 2— *Wm. B. Ittner, Architect, F.A.I.A. (President)*, 3—*R. W. Smith, Mech. Eng. (Vice Pres.)*, 4—*Robt. W. Lemon, Attorney (Secy.)*, 5—*D. Stephen, Architect, A.I.A. (Vice Pres.)*, 6—*Mrs. A. Donovan, Telephone Operator*, 7—*Miss E. Ventriss, Stenographer*, 8—*Miss M. Fillo, Stenographer*, 9—*Miss H. Cunningham, Stenographer*, 10—*B. J. Applegate, Archt. Draftsman*, 11—*Chas. W. Huning, Archt. Draftsman*, 12—*Geo. Horch, Mech. Draftsman*, 13—*B. J. Mick, Draftsman*, 14—*Arthur Rathert, Draftsman*, 15—*W. W. Pistor, Draftsman*, 16—*M. H. Dodge, Archt. Draftsman*, 17—*F. W. Dimmit, Mech. Draftsman*, 18—*Wm. B. Ittner, Jr., Architect, A.I.A. (Assistant Management)*, 19—*E. A. Neuman, Engineer*, 20—*R. M. Hare, Engineer*, 21—*Wm. R. Rummel, Field Supt. of Construction*, 22—*Robt. R. Jacobsmeyer, Draftsman*, 23—*V. A. Boeke, Field Supt. of Construction*, 24—*J. F. Powell, Field Supt. of Construction*, 25—*W. H. Foster, Specification Writer*, 26—*Gilbert Rosenbach, Draftsman*, 27—*Alfred Hupfeld, Draftsman*, 28—*F. C. Whitney, Engineer*, 29—*O. H. Rothe, Draftsman*, 30—*Paul Veit, Archt. Draftsman*, 31—*R. D. Henderson, Archt. Draftsman*, 32—*Hollis Schwarz, Draftsman*, 33—*Carl N. Atkinson, Specification Writer*, 34—*E. R. Murphy, Filing Clerk*, 35—*Fred Boeke, Equipment Specialties. Men in Field not included in Photograph: W. E. Irving, Field Representative, Field Superintendents of Construction, Dan H. Dean, T. C. Epps, C. A. Glocker, H. R. Hancock, R. S. Kartendieck, E. O. Smith, E. P. Whitman, W. P. Wil...*



FLOOR PLAN, OFFICE OF WILLIAM B. ITTNER, INC.

(See page 908 for photograph of office force)

NEW YORK-PHILADELPHIA INTER-CITY BASEBALL CHAMPIONSHIP

THE NEW YORK ARCHITECTURAL CLUB, INC., All-Star Baseball Team made the trip to Philadelphia on September 27th to play the all-star team selected from the Philadelphia Architects' Baseball League by Chief Dryer, President of the Philadelphia League.

A. A. Penfold, President of the New York Baseball Team, and Pop Scheffer's fast aggregation of ball tossers arrived at Broad Street Station, Philadelphia, at 11:00 A. M. After luncheon the two teams were immediately motored to the Philadelphia Rifle Club Field at 8th Street and Labor Road, Philadelphia, where 5,000 excited fans were waiting for the battle between the two architectural teams. It was the Third Annual Inter-City Baseball Championship between New York and Philadelphia, New York having won in 1928 and 1929. The game started promptly at 3:30 P. M., with Long pitching for the visitors and Jeffries for the home team.

The feature of the game came in the ninth inning with the score three to three and a man on second for the home team with two outs. Scheidhauer, up as a finish hitter, drove a line drive to deep center. Wahle recovered the ball and with a lightning throw to Carlisle caught the Philadelphia runner by two feet at the home plate, holding the score three to three, which made it necessary to play an extra inning, the final score being five to four.

The score was as follows:

NEW YORK

	AB	R	H	O	A	E
Santonassimo—3rd.	5	1	0	6	3	1
Stenger—R.F.	5	0	0	3	0	0
Wahle—Capt.—C.F.	5	1	1	1	3	1
Anderson—S.S.	3	1	1	0	3	0
Brinkerhoff—2nd.	5	1	1	5	0	0
Stevens—L.F.	3	1	1	1	1	0
Carlisle—C.	4	0	2	5	0	0
Butler—1st.	4	0	0	8	1	0
Long—P.	4	0	0	1	3	1
Rockford—Sub.						
Bader—Sub.						
Forrester—Sub.						
	38	5	6	30	14	3

A. A. Penfold, Pres. of League—M. L. J. Scheffer, Coach.

PHILADELPHIA

	AB	R	H	O	A	E
Reihert—2nd.	1	0	0	1	1	3
Doan—2nd.	2	1	0	3	2	0
Franks—C.	5	0	0	10	2	0
Hagan—1st.	5	0	0	13	1	0
Boozer—C.F.	5	1	1	1	0	0
Beck—R.F.	5	1	2	1	0	0
Williams—Capt.—S.S.	4	0	2	0	1	1
Reinhart—3rd	3	0	0	2	4	0
Crooks—L.F.	1	0	1	0	0	0
Montgomery—L.F.	2	0	1	0	0	0
Jeffries—P.	4	1	0	0	6	0
Munuon—C.	1	0	0	0	0	0
Pfender—P.						
Scheidhauer—3rd			1			
Lorenz—UT.						
Thompson—UT.						
Rueter—Mgr.						
	38	4	7	31	17	4

M. M. Dryer, Pres.—J. E. Doan, Jr., Sec't.—W. J. Rankin, Treas.

Home Runs—Anderson.

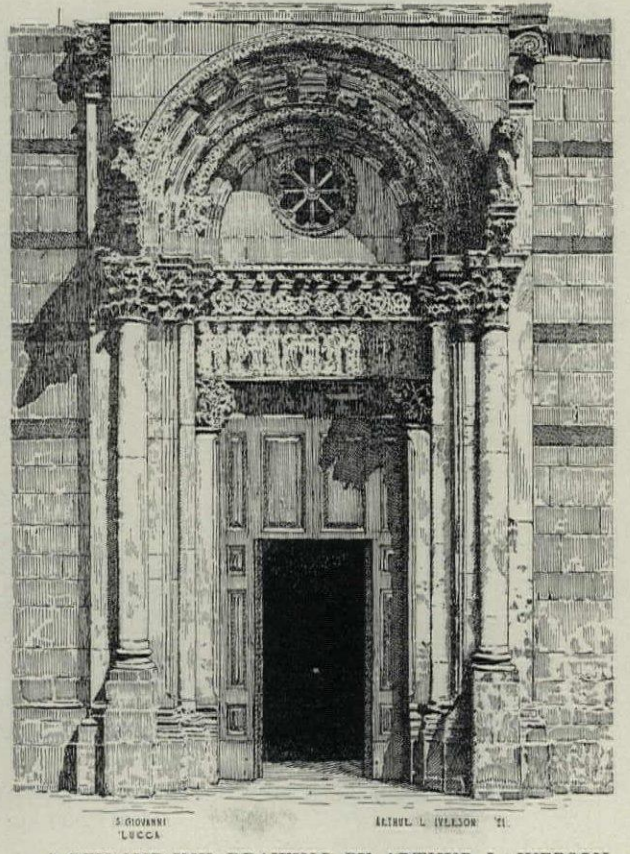
Two-Base Hits—Stevens, Wahle, Crooks.

Strike-Outs—Jeffries 9, Long 11.

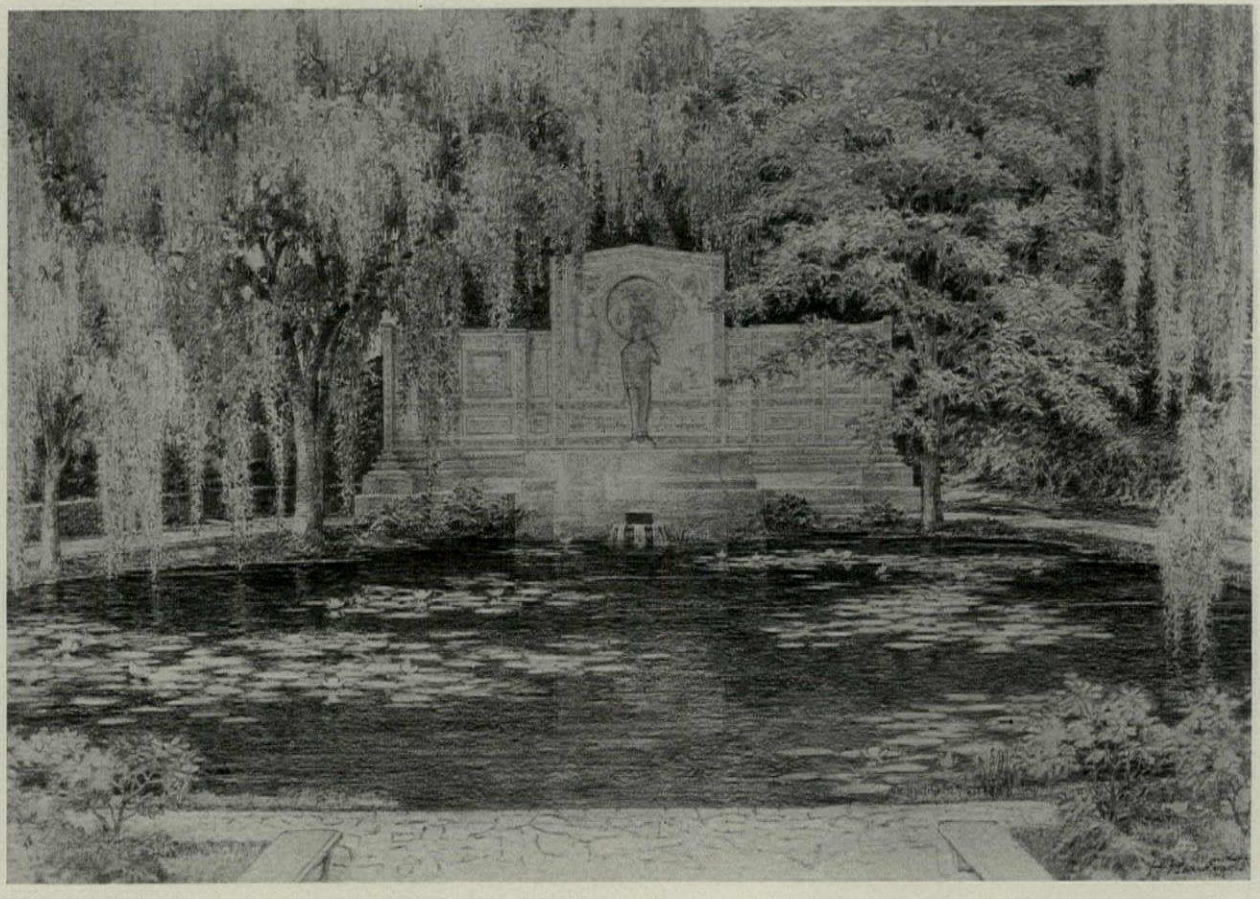
Base on Balls—Jeffries 5, Long 2.

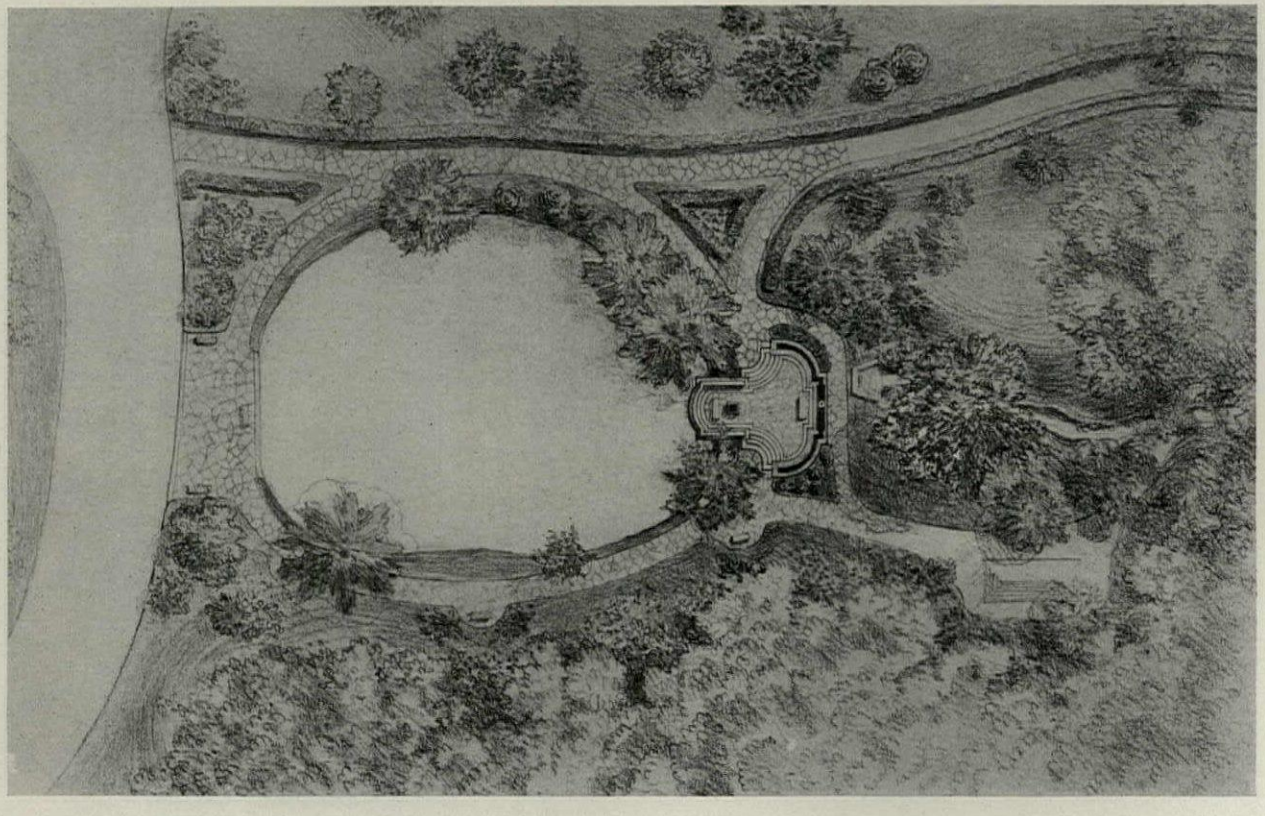
P. M. Lynch—Official Scorer—Time, Two Hours.

We desire to take this opportunity to thank those members of the Allied Arts and Trades who by their kind co-operation and contributions have made this game possible as an annual affair.



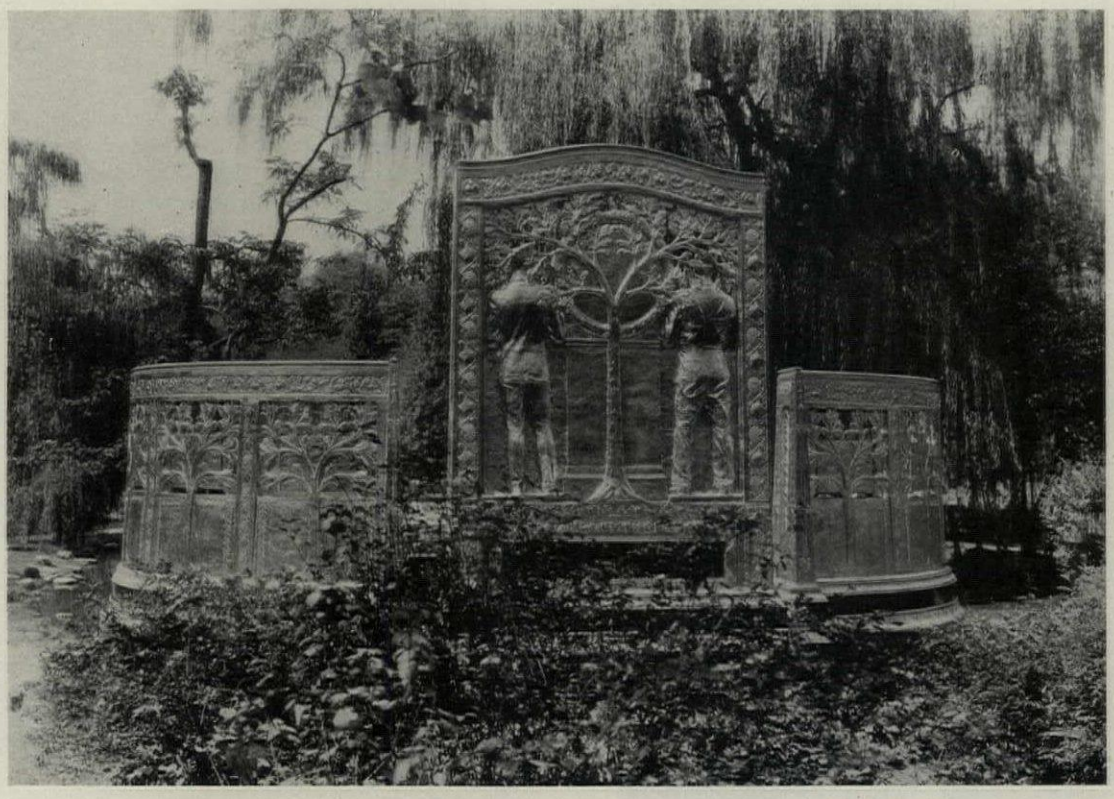
A PEN-AND-INK DRAWING BY ARTHUR L. IVERSON



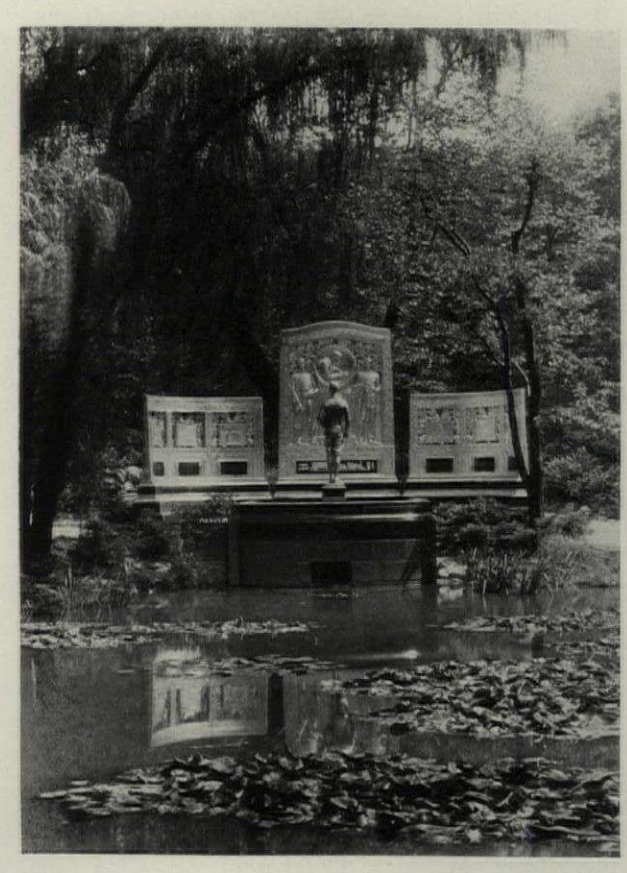


SKETCHES MADE BY HENRY HORNBOSTEL, ARCHITECT, FOR THE GEORGE WESTINGHOUSE MEMORIAL IN PITTSBURGH, PENNSYLVANIA

(See text on page 913)



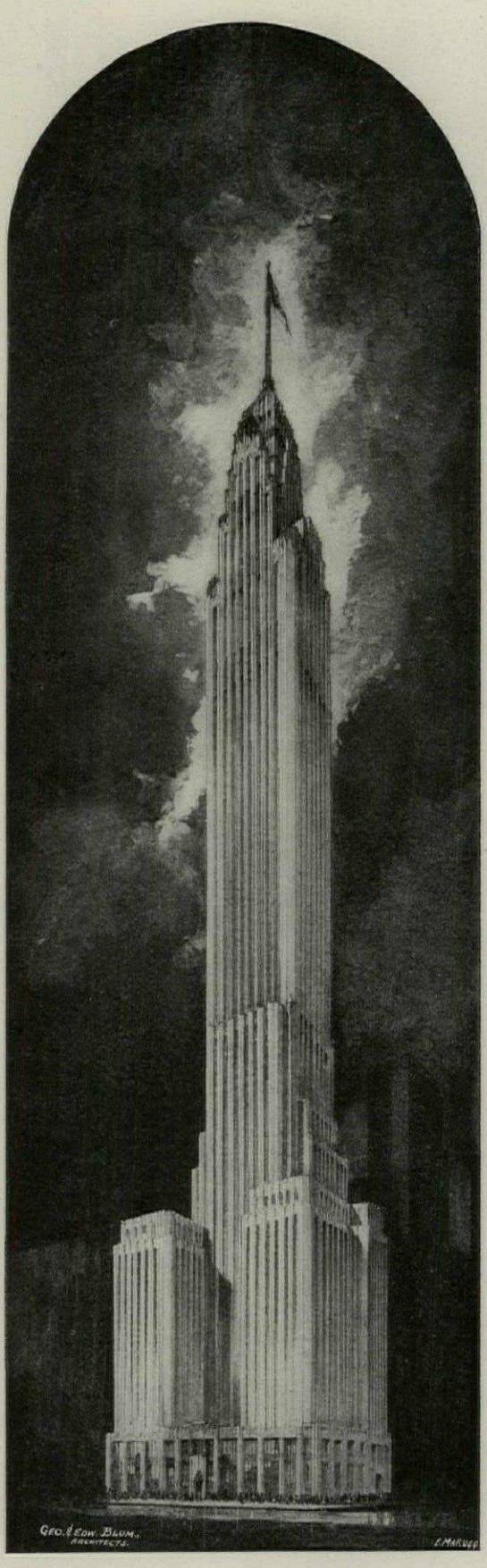
THE REAR OF THE MEMORIAL SHOWING THE UNIQUE SCULPTURAL EFFECT



MEMORIAL TO GEORGE WESTINGHOUSE IN PITTSBURGH, PENNSYLVANIA

HENRY HORNBOSTEL, ARCHITECT; DANIEL CHESTER FRENCH, SCULPTOR; PAUL FJELDE, SCULPTOR

(See text on page 913)



RENDERING IN PENCIL AND CHARCOAL
BY EUGENE MARUGG

Projected design for an eighty-five-story skyscraper proposed for the site of the Hotel Belmont, New York—George and Edward Blum, Architects.

NEW ART SCHOOL IN BROOKLYN, N. Y.

THE NAMES OF Ernest W. Watson and Arthur L. Guptill have so long been familiar to readers of PENCIL POINTS that the announcement elsewhere in this issue that they have joined forces to organize a school known as the Watson-Guptill School of Art is of particular interest.

While Mr. Watson is perhaps best known to our readers for his delightful and instructive Eldorado Page, it is his work in creative art, and particularly in block printing, which has brought him general recognition. His volume, *Linoleum Block Printing*, was accepted as authoritative as soon as it came from the press. As an educator Mr. Watson's experience has been long and successful. For many years he has been a member of the general faculty of the School of Fine and Applied Arts, Pratt Institute, Brooklyn, N. Y., where he is at present Supervisor of the evening courses in Art, Architecture, and Interior Decoration, and an instructor in the day classes. He was co-founder and director with Raymond Ensign of the Berkshire Summer School of Art, with which school he served over a long period.

Mr. Guptill, though an architect, had training as an artist. He has long been known to PENCIL POINTS' readers for his sketches of architectural subjects in the advertising pages. His books, *Sketching and Rendering in Pencil*, and *Drawing with Pen and Ink*, are evidences of his activities along educational lines, for he, like Mr. Watson, has long been connected with Pratt. Ever since 1912 he has served there as a part-time instructor in architecture and interior decoration while carrying on his professional work.

A unique feature of the architectural department of the Watson-Guptill School is that it aims to offer no long-term courses in architecture, competing with those already established elsewhere, but instead to help the draftsman or architect to strengthen his weakness in some particular direction through a comparatively short, intensive course. To make possible this accomplishment a group of courses will be offered, many of them in the evening or on Saturday afternoons. Classes are now forming, for instance, not only in elementary and advanced architectural drafting but in such special subjects as architectural shades and shadows, practical perspective, sketching and rendering, specifications, estimating, and the like. The school welcomes suggestions for courses and invites correspondence. Address the Watson-Guptill School of Art, 209 Washington Park, Brooklyn, N. Y.

EBERHARD FABER OFFERS ART SCHOLARSHIP

EBERHARD FABER PENCIL COMPANY has announced an important competition open to high school students for drawings made with Mongol Colored Indelible pencils.

The first prize is tuition for two years in the finest art schools—first year in America, the second year in Europe. Second prize is $200 toward one year's tuition in a leading American art school; third prize $75 cash; fourth prize $25 cash. Contest ends January 31st, 1931.

Prize winners will be announced in April, 1931, issue of trade and art magazines.

The judges will be: James C. Boudreau, Director School of Fine and Applied Art, Pratt Institute, Brooklyn, N. Y.; William M. Odom, President New York School of Fine and Applied Art (Parson's), New York; Felix Payant, Editor Design Magazine, Professor of Art, Ohio State University; Joseph Wiseltier, Connecticut State Director of Art.

Full details may be obtained from Eberhard Faber Pencil Company, Scholarship Dept., 37 Greenpoint Avenue, Brooklyn, N. Y.

GEORGE WESTINGHOUSE MEMORIAL

THE MEMORIAL TO GEORGE WESTINGHOUSE was unveiled at Schenley Park, Pittsburgh, on October 6th. The monument was designed by Henry Hornbostel and Eric Fisher Wood, Architects, and consists of a large central panel flanked by two semicircular wings, all of which are made of gold-leafed bronze with Norwegian granite insets. The central panel, of which Daniel Chester French is the sculptor, carries the medallion of George Westinghouse, supported on an open work background of oak tree foliage; on either side are two figures, one a skilled mechanic and one an engineer with his slide rule. Both the portrait and the figure are modelled in full relief. The rear of this panel shows the back of the two figures as well as the conventional design of the oak tree, the panel being worked in full relief on both sides. This was done to avoid constructing just a front and to make the rear view, which is seen as one follows the path leading down the valley, as interesting as the front. This effect is shown in the photograph on page 911.

Each of the flanking wings is divided into three panels, executed by Paul Fjelde, sculptor, and on each is depicted in low relief one of Mr. Westinghouse's achievements.

Standing well back from the panels and facing it is the figure of the American Youth, modelled by Daniel Chester French. This is of heroic size and is of gold-leafed bronze to correspond with the rest of the memorial.

Special attention has been given to the landscaping of the surroundings of the memorial, as its setting was considered as important as any other detail. The building of the paths, the profuse planting of rhododendrons and countless other shrubs, the removal of trees that marred the general effect and the careful preservation of those that added to it, the placing of Norweigan granite benches, the creation of the pond formed by the stream that trickles out from under the memorial itself—all of these help to bring about a complete artistic ensemble.

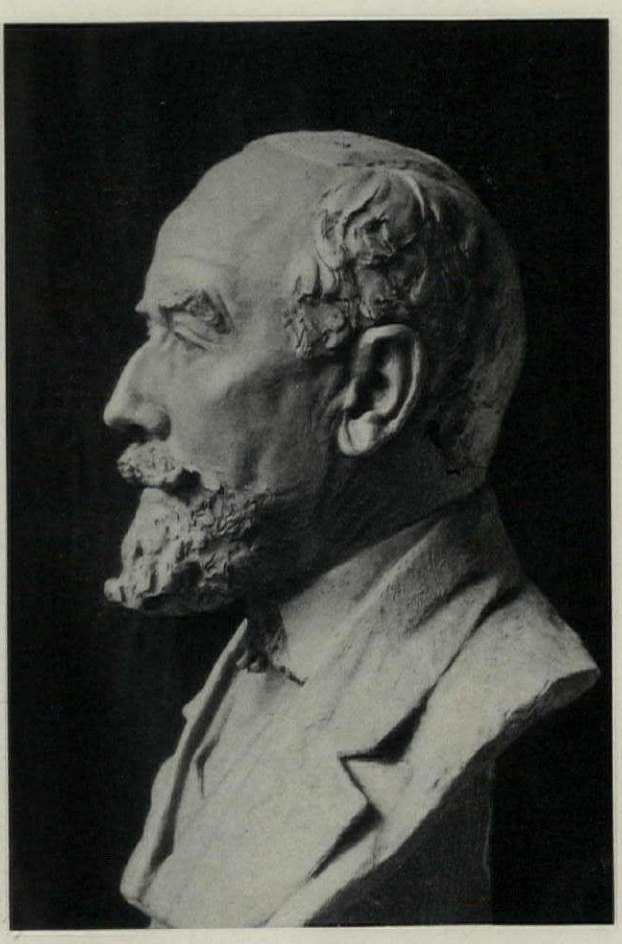
A REPLY TO MR. ZICHNER

By C. A. STEWART

Chief Engineer, Anti-Hydro Waterproofing Co.

WE HAVE OBSERVED, with some astonishment, a statement by Mr. Hugo Zichner in your September [page 744] number, to the effect that it is common practice in New York to leave weep holes after waterproofing operations are completed. Mr. Zichner contends that the water flowing through such weep holes carries off the lime of the cement and weakens the concrete.

In an experience of more than 15 years with various waterproofing problems throughout the East, the writer has never seen weep holes left open for more than a few hours after the completion of waterproofing work. That such a practice could be "common" seems utterly impossible, since weep holes are useful in only one type of waterproofing—the plaster coat method, sometimes referred to as the hydrolithic method. Even in this method, weep holes are only used when the wall leaks so badly that the plaster cannot be made to adhere. Then it is customary to cut into the wall at regular intervals and insert small lengths of pipe which are sealed in the wall and project 4″ or 5″ beyond its surface. The object is to localize the leaks in the wall so that the adjoining areas may be properly plastered. But as soon as the final coat is thoroughly set, these drain pipes are removed one by one, the opening plugged and the surface smoothed off even with the surrounding plaster. This operation is completed just as soon as the condition of the plaster will permit and certainly by the day following the application of the plaster.



PORTRAIT BUST OF HENRY HORNBOSTEL
PAUL FJELDE, SCULPTOR

Even in plaster coat jobs the necessity for weep holes or drains occurs infrequently, so that their use could hardly be called common, much less the practice of leaving them open.

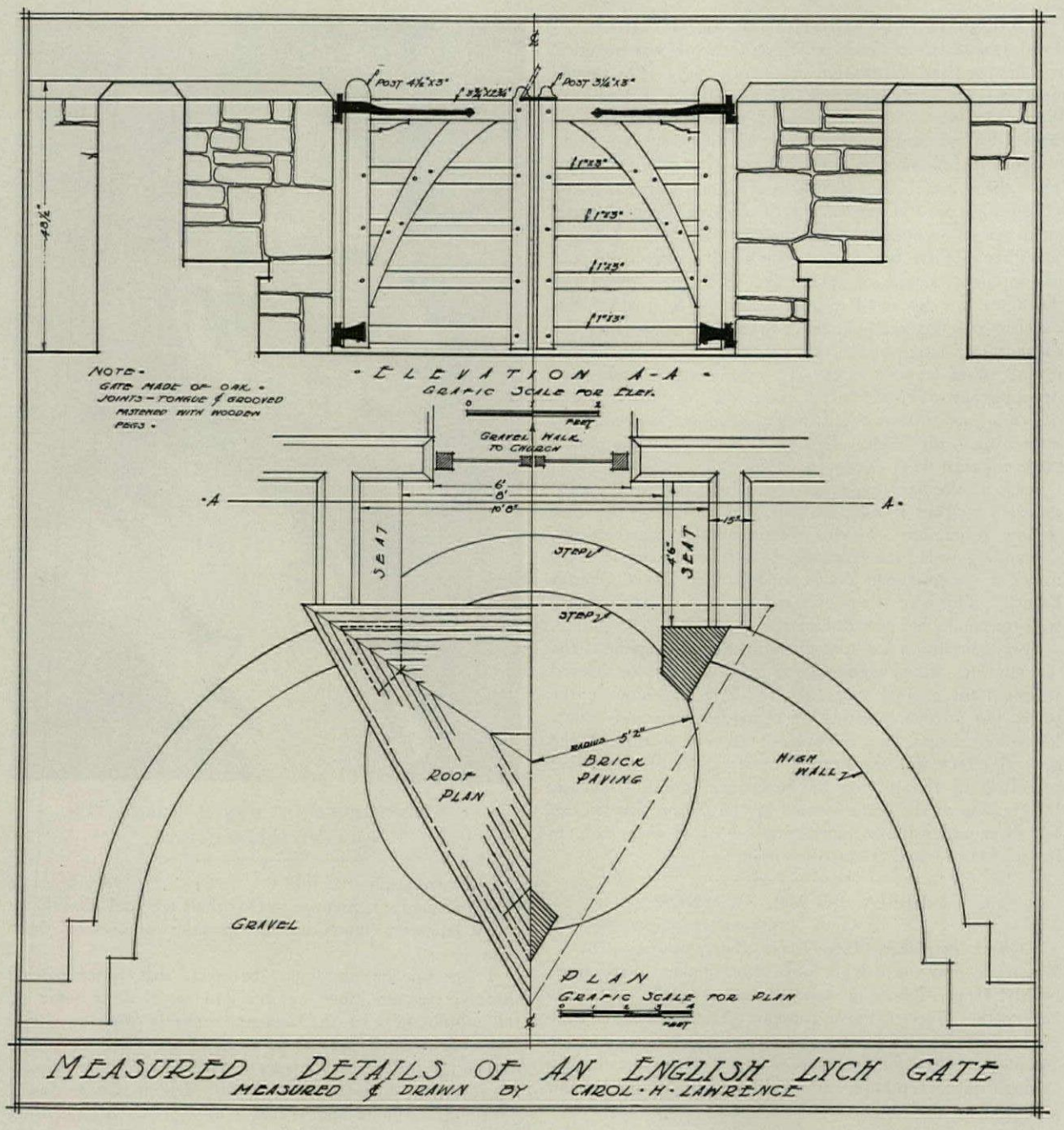
There can be no doubt, however, that water passing through concrete does dissolve and carry along some of the soluble salts of the cement, probably the free lime. No weep hole is needed to demonstrate this. Any spot on the inside face of a concrete wall, where water is seeping through, will soon show a white deposit that gradually builds up. Where such seepages have occurred in ceilings we have known stalactites to form 8 or 10 inches long. Whether or not this action seriously weakens the concrete as Mr. Zichner contends, we do not know, but we would doubt it. And we are certain that no reputable waterproofing contractor leaves weep holes open for any appreciable time after completing his waterproofing operations.

BROOKLYN CHAPTER, A.I.A.

THE OCTOBER DINNER MEETING of the Brooklyn Chapter of the American Institute of Architects was held on Monday, the 27th, in the auditorium of the Brooklyn Edison Company's building. The dinner marked the opening of an exhibition on the main floor of this building during the entire week including Saturday, Nov. 1st.

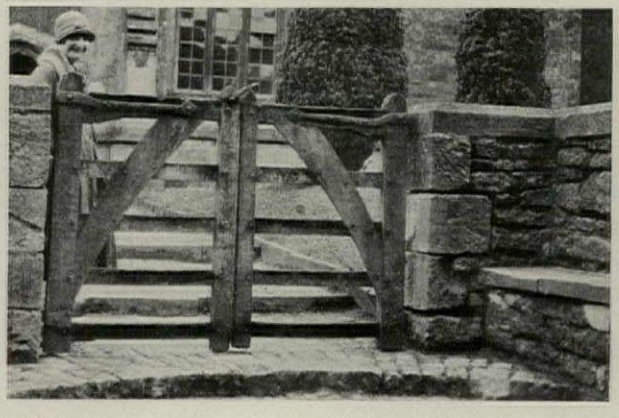
This exhibition was held through the kindness of the Brooklyn Edison Company in conjunction with their annual lighting exhibition.

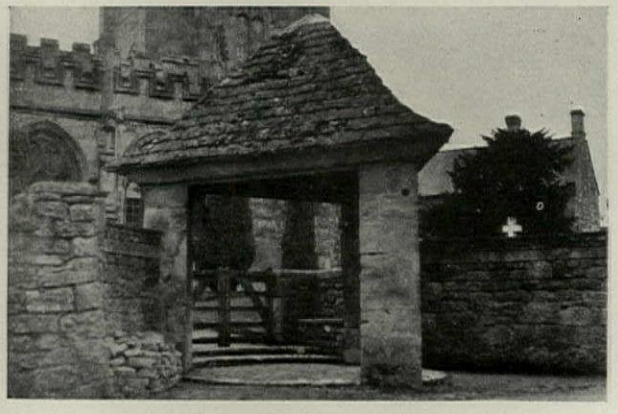
The hanging of the work of the members of the Brooklyn Chapter was in charge of the Current Work Committee of which Henry V. Murphy is Chairman.



MEASURED DETAILS OF AN ENGLISH LYCH GATE

MEASURED & DRAWN BY CAROL · H · LAWRENCE





MEASURED DRAWING BY CAROL H. LAWRENCE—PHOTOGRAPHS BY HANNAH I. CHAMPLIN

FURTHER LETTERS ON "THE VALUE OF THE ARCHITECT'S SERVICES"

EDITOR'S NOTE:—*Comments on our proposed document, published in the July issue of* PENCIL POINTS, *still come in from architects in all parts of the country. They are very helpful to us in carrying on the work of revision. A selection of those received recently, quoted below, may be of interest to our readers as evidence that architects everywhere are still thinking about the problem. We appreciate their assistance and invite further suggestions.*

From HENRY C. COLLINS, *Architect, of Palo Alto, Cal.*

"I have followed your educational campaign and have read the material for the proposed booklet with a great deal of interest. My reaction is that you are on the way to producing something splendid. How such a booklet could harm the profession, as your comments say one architect objected, is beyond my conception. That there should be comments of 'too long' is inevitable in this day of short hair and short everything else. The cry that it is too long is a patent criticism of anything written. I agree with your answer to this that you must take space to convey your message. And there is where the only criticism which I have comes in.

"The average person must be inviegled into reading a long message of this sort. Every means and device must be used to excite and carry on the interest. I like particularly your layout with an illustration on the reverse of each page. I would make this typical of every page throughout the booklet. Now, in the text of your message the language, of necessity, must be somewhat technical and matter-of-fact. But why would it not be possible to introduce the story element in the captions under the illustrations—put in as much human interest as possible; for surely architecture, which serves the second essential of human existence—shelter—must have human interest.

"I would take as my pattern National Geographic, one of the most popular periodicals of our time but one which the most hide-bound of architects could not criticize for lack of dignity. When I pick up a copy of National Geographic I look at the illustrations and read the captions. If my interest is aroused I read the accompanying article. Don't you think that my case is a typical one? We must always bear in mind, as one architect has so aptly put it, the public is not so keen about being educated. No matter how excellent your booklet may be we cannot expect that a line will form outside your office as soon as publication is announced.

"That would be the only suggestion I have to offer. The text seems to me to be a perfect statement of the case. In some cases such as under 'What Does The Architect Do For You?' I think the solid pages of type might well be relieved with subtitles or inset titles—always remembering that Americans are a race of headline readers and yet these headline readers are those whom we want to reach."

From ANGELO B. M. CORRUBIA, A.I.A., *of St. Louis, Mo.*

"I have read with great interest and care your material regarding 'The Value of the Architect's Services,' as published in the July issue. I do not find anything to criticise and I hope that you will not be discouraged from going ahead with at least this much of your educational movement. I regret very much that your original plans have fallen through.

"Please advise if the literature that you propose to publish will be available for use by individuals."

From A. J. RUSSELL, A.I.A., *of Tacoma, Washington*

"Having carefully studied 'The Value of the Architect's Services' I believe the subject could not be treated more clearly and that it would be a great benefit to the profession to have the contents in brochure form, to present to those intending to build."

From WILLIAM C. NOLAND, F.A.I.A., *of Richmond, Va.*

"I wish to acknowledge with thanks your July number, containing the article, 'The Value of the Architect's Services.'

"As you requested comments upon it, I have intended to write you before this; but circumstances have prevented my doing so.

"I realize that the subject is a difficult one to present to the layman in a form sufficiently clear and at the same time sufficiently concise.

"I think the article is along the proper lines and very creditable as it is; but, in view of the nature and importance of the document, I think that no pains should be spared to get it as nearly perfect as possible before issuing it, and, in restudying it, to strive to reduce the length of it wherever possible.

"In Sec. 4, Page 574, I think that the statement that the registration laws provide against anyone calling himself an architect without having the proper qualifications would lead a layman to believe that any registered architect would necessarily have such 'proper qualifications.' He would doubtless have some sort of qualifications to get him by the state board of registration; but not necessarily the proper qualifications of a first-class architect. So I think this paragraph is misleading and should be revised. Also, in mentioning the patent laws, you might combine the examples, instead of mentioning them separately, and thus shorten the paragraph.

"On page 577, 4th paragraph, you say 'However, you now have before you the results of the preliminary study in the form of plans and a *perspective* pencil or water color sketch.'

"I would, by all means, leave out the word 'Perspective,' and say 'Plans and sketch elevations showing how the exterior will look.' Or just say 'Sketches showing the general appearance of the exterior,' without specifying whether the sketches will be in elevation or perspective. To specifically mention a perspective would lead the layman to think that such was customary and that he could therefore demand it of the architect, whereas such is not customary. Sketches are usually made in elevation. The architect does frequently make preliminary sketches in perspective, but that is optional with him and should not be mentioned as a service to be necessarily expected of him. For that reason I would strongly advise that you publish a sketch elevation either in place of the Bird's-eye Perspective that you show on Page 575 or else along with it on the same page."

THE DRAFTSMAN'S LIBRARY

PLATE 20
STRONG LINE DECORATIVE RENDERINGS FOR ADVERTISING ILLUSTRATIONS FROM EUROPE

SOME EUROPEAN POSTER DESIGNS

From "Modern Art—Commercial Art and Lettering"

Fundamentals of Architectural Design, by W. W. Turner; 175 pages, 60 plates and additional figures, size 11″ x 15″; price $6.00; published by the McGraw-Hill Book Company, New York.

Reviewed by Wells Bennett

The beginner at architecture ought to welcome the presentation in one volume of the essentials of the elementary architectural subjects. This is such a handbook, setting forth what every young architect ought to know. Shades and Shadows, Perspective, The Orders, Rendering, and Lettering are all discussed with many excellent plates and figures and student exercises. There is also a glossary of architectural terms. A unified text has, beside compactness, the great additional merit of economy; one book takes the place of four or five.

It is a little difficult for one man to present such different subjects as mechanical perspective and color rendering with equal facility and inspiration. For the Orders nothing quite takes the place of Buhlmann, D'Espouy, and even Esquie's Vignola. In the chapter on lettering, too, the treatment is perfunctory and would need to be supplemented by good teaching, or such a book as F. C. Brown's *Letters and Lettering*. The Shades and Shadows portion of this work is the best, but all parts are good. The title may be a trifle misleading. The book treats of architectural drawing and rendering; of presentation but not of composition.

Modern Art—10 Portfolios, by Pedro J. Lemos; 32 plates in black and white and 4 color plates in each portfolio, 8½″ x 11″; price $3.00 each; published by The School Arts Magazine, Worcester, Mass.

These ten portfolios were made up by Mr. Lemos to furnish students and designers with stimulative reference material in the so-called *modern* manner. They cover "Commercial Art and Lettering," "Decorative Design," "Etchings and Block Prints," "Exteriors—Buildings," "Interiors and Furniture," "The Art of the Book," "Novelties and Jewelry," "Lighting Fixtures and Iron Work," "Posters," and "Sculpture and Pottery." Each portfolio is procurable separately. The material was selected by Mr. Lemos from among thousands of examples collected abroad and represents what he believes to be the most typical and best examples under each heading. The specimens of commercial art and decorative design are particularly good, but all of the portfolios should prove useful to designers working in the fields covered.

Modern Poster Annual, 1931; a portfolio of 45 sheets, 10″ x 13″, upon which are mounted more than 100 designs in color; price $6.00; published by A. Broun, New York.

This portfolio, which is the seventh of the series to be published since Mr. Broun started it, presents a very well selected group of the year's best specimens of modern advertising designs in color. The designs are drawn from America and Europe and include work by many of the world's best known designers such as C. B. Falls, Boris Artzybasheff, Winold Reiss, Louis Fancher, Herbert Paus, John Sheridan, and others. Men interested in poster design and decorative commercial art will find this a useful collection.

History of the Campus Plan of the University of Illinois, 1867-1930, by Tilton and O'Donnell; 245 pages, 7″ x 10½″; price $5.00; published by the University of Illinois Press, Urbana, Illinois.

Reviewed by Francis S. Swales

This interesting book, describing the process of planning the physical part of a great and rapidly growing institution, shows that a well conceived modern plan made twenty-five years ago, had it been carried out completely, would have been inadequate today.

"While we cannot hope that even the present excellent plan can be adhered to in every detail," writes President Kinley in the preface, "I am confident that the main outlines of the South Campus at any rate are fixed for years to come. Few institutions are so fortunate as to have had the benefit of so diverse an assemblage of talent and excellent advice from great architects and at the same time in the personnel of members of its staff a coordinating and unifying influence through a generation. The result is that the University has a workable campus plan, a correlated landscape plan, and a new architectural tradition."

The illustrations of plans and sketches representing the work of C. H. Blackall, who originated the idea, W. C. Zimmerman, J. M. White, whose endeavors kept it alive and in constant development, Holabird and Roche, Charles A. Platt, and others, the report of Mr. Vitale on the planting or "landscape," the collection of important letters,

and the reports of the Committees, all contribute to make this book an engaging study to architects and others interested in the larger phases of architectural planning of the proper relationship of groups of buildings in an effective and convenient arrangement. The plan of the University of Illinois is more than merely a plan of a group of buildings. It is the plan of a small city devoted to education.

Masterpieces of Architecture in the United States, by Edward W. Hoak and Willis Church, with a preface by Paul P. Cret; 225 pages, 13″ x 17″; price $20.00; published by Charles Scribner's Sons, New York.

"In preparing this collection of executed work," says Paul Cret in his preface, "the authors of this book, Messrs. Hoak and Church, have shown a very clear understanding of its requirements, and both in the selection of their material and in their exposition of it have displayed a discrimination and intelligence that is worthy of very high praise." We can heartily endorse this statement of Mr. Cret's for it seems to us that the volume is one of the best architectural books of the year—an almost monumental record of some of the finest achievements of American architectural effort. The buildings represented are the Lincoln Memorial, Washington; the Liberty Memorial, Kansas City; the Detroit Institute of Arts; the Freer Museum, Washington; the Boston Public Library; the Indianapolis Public Library; the Detroit Public Library; the Church of St. Vincent Ferrer, New York; the Madison Square Presbyterian Church, New York; the Nebraska State Capitol; the Pan-American Union, Washington; the Temple of the Scottish Rite, Washington; the Shelton Hotel, New York; the Hotel Traymore, Atlantic City; the Barclay-Vesey Building, New York; the Bush Building, New York; the Tribune Tower, Chicago; and the Woolworth Building, New York. These were selected by a jury consisting of Chester Aldrich, Harvey Wiley Corbett, Ralph Adams Cram, Paul P. Cret, Raymond M. Hood, William M. Kendall, H. Van Buren Magonigle, William Rutherford Mead, Milton B. Medary, and Harry Sternfeld—truly a formidable list of judges.

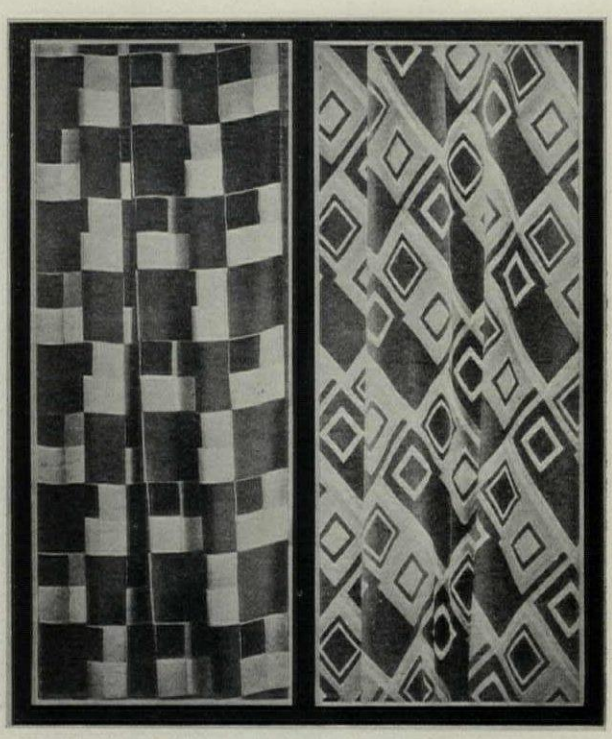
Each structure is shown by means of beautifully reproduced photographs and fine analytical drawings which may be read directly to scale. An analysis of the problem and its solution by the architect of each building adds greatly to the value of the work as a reference. Both the authors and the publishers are to be complimented upon the production of such a finished piece of work.

Wind Bracing, The Importance of Rigidity in High Towers, by Henry V. Spurr; 132 pages, 6″ x 9″; price $3.00; published by the McGraw-Hill Book Company, Inc., New York.

Reviewed by Francis S. Swales

This is an excellent treatise upon a subject which has long needed the thoughtful consideration and care which this author has given to it. It sets a standard of design in this controversial phase of structural engineering which will stimulate discussion and a better understanding of the essentials of the problem of securing against unpleasant elastic behavior of the steel frame of high, slender towers.

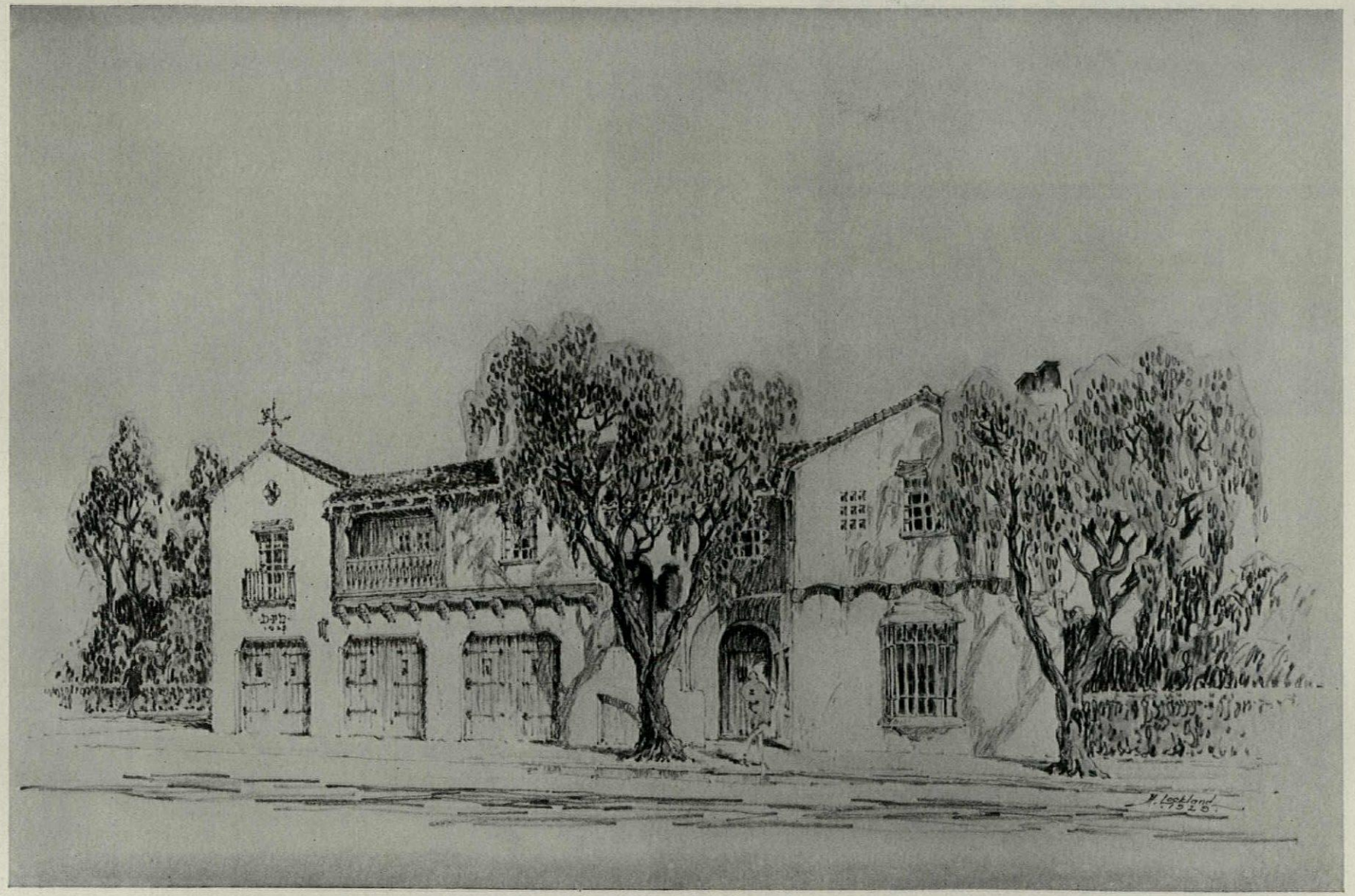
The author thinks clearly, is a sound reasoner, and expresses himself so well that his general description of essential features of the subject is as easily read and understood as a news article in a well edited newspaper. It is a book that will be welcomed by architects, since even in those parts in which he deals with the more technical discussion of the fundamental principles of design and their application to the problems of the designing engineer, he holds to a minimum of mathematics not difficult to follow and to "simplified formulae to illustrate discussion."



GEOMETRIC TEXTILE PATTERNS
From "Modern Art—Decorative Design"

The "specification" which he submits, in Chapter X, for the consideration of owners and builders, as well as architect and engineers, is a particularly valuable new contribution of bases to ideas upon the subject and alone well-worth the price of the book, as a guide for procedure in dealing with the question of rigidity, as well as those of strength and stability of buildings against wind loads; since these latter are all that our building codes attempt to secure. His proposals are neither too bold nor too conservative; neither more nor less than the proper allowances and requirements in order to provide against the all too frequent troubles with leakage at the junctions of walls and roofs, especially at the set-backs of buildings with high towers, due to insufficient consideration of rigidity in the frame and proper bracing at the connections. While we may not expect such valuable advice to find its way into building codes, since it is no business of the public authorities to guard the financial interests of owners, it is not too much to expect that architects who study Mr. Spurr's recommendations will place them in their office codes as the best that have been evolved to date upon this very important problem.

Mr. Spurr, as Chief Engineer of Purdy and Henderson Company, Consulting Engineers, is already so well known to the architectural profession as a practical designer of steel work as to require no introduction here; but his treatment of the subject of Windbracing in this volume will add more than a little to the esteem in which he is held. It is not too much to predict that this little volume is destined to become a standard work.



FIRE HOUSE FOR DIXON FIRE DISTRICT, DIXON, CALIFORNIA—RENDERING IN PENCIL AND WATER COLOR BY HARRY LOCKLAND

DESIGNED BY HARRY LOCKLAND AND GEORGE J. ROSSI

HERE AND THERE AND THIS AND THAT

CONDUCTED BY E.L.C.

This department conducts four competitions each month. A prize of $10.00 is awarded in each class as follows: Class 1, sketches or drawings in any medium; Class 2, poetry; Class 3, cartoons; Class 4, miscellaneous items not coming under the above headings. Everyone is eligible to enter material in any of these four divisions. Good Wrinkle Section: a prize of $10.00 is awarded for any suggestion as to how work in the drafting room may be facilitated. No matter how simple the scheme, if you have found it of help in making your work easier, send it in. Competitions close the fifteenth of each month so that contributions for a forthcoming issue must be received by the twelfth of the month preceding the publication date in order to be eligible for that month's competitions. Material received after the closing date is entered in the following month's competition.
The publishers reserve the right to publish any of the material, other than the prize winners, at any time, unless specifically requested not to do so by the contributor.

THE PRIZES this month have been awarded as follows:

Class I—G. Massena, Wilmington, Delaware.
Class II—Lila French, Minneapolis, Minn.
Class III—A. Caputo, Brooklyn, N. Y.
Class IV—No Award.

We have received a number of advance Christmas cards and are planning to present a group of different designs in the December issue as a belated inspiration to all "last minute artists." Of course we're going to have our annual Christmas Card Competition, too, but this will be announced later.

ALBERT N. TIPPLE of Rome, Georgia, sent us a story that amused us. He calls it "A Timely Hint":

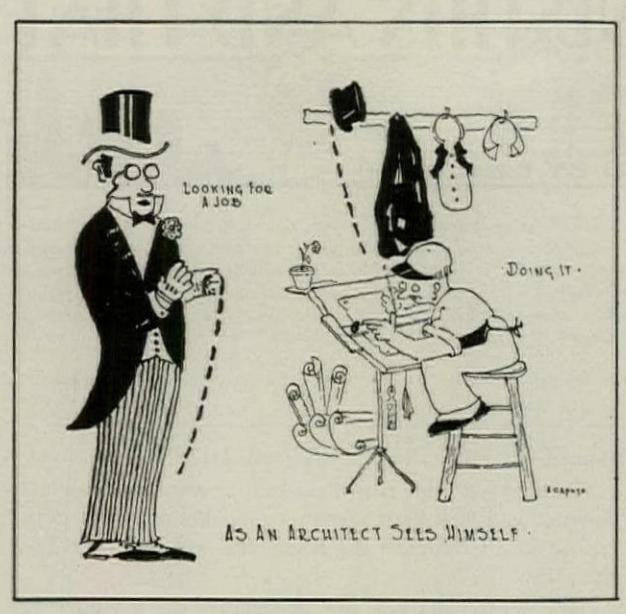
"A friend of mine recently asked the owner of a cleverly designed and well built home who was his architect. 'Oh,' replied he, 'I designed the house, the architect only drew the plans.'"

Mr. Tipple suggests the desirability of a course for architects in crystal gazing, mental telepathy, or the fathoming of the subconscious. His idea is that if the architect were proficient in the technique of tapping the reservoirs of knowledge in the worthy client's mind he could more easily do the necessary jackass work for the client, and thereby in no way offend his superiority complexes.

PENCIL SKETCH FROM THE NOTEBOOK OF G. MASSENA OF WILMINGTON, DELAWARE

Church of St. Theodore, Athens, Greece

(PRIZE—*Class One—October Competition*)



CARTOON BY A. CAPUTO, BROOKLYN, N. Y.
(PRIZE—*Class Three—October Competition*)

FROM MR. PHILIP KUTZ, of Los Angeles, comes the following helpful hint:

"You can believe this or not but in my greatest hour of need at 7:30 in the morning when the world is rushing to get to work, my dainty feet refused to squeeze into my shoes, when lo and behold! my eye pounced on the cardboard edge protector which you include free of charge with each PENCIL POINTS and with one application my feet just oozed into the shoes.

"I'll bet you never thought of those things being used as a shoe horn! From now on I'll never be without one."

THE ARCHITECT

By Lila French, Minneapolis, Minn.

(PRIZE—*Class Two—October Competition*)

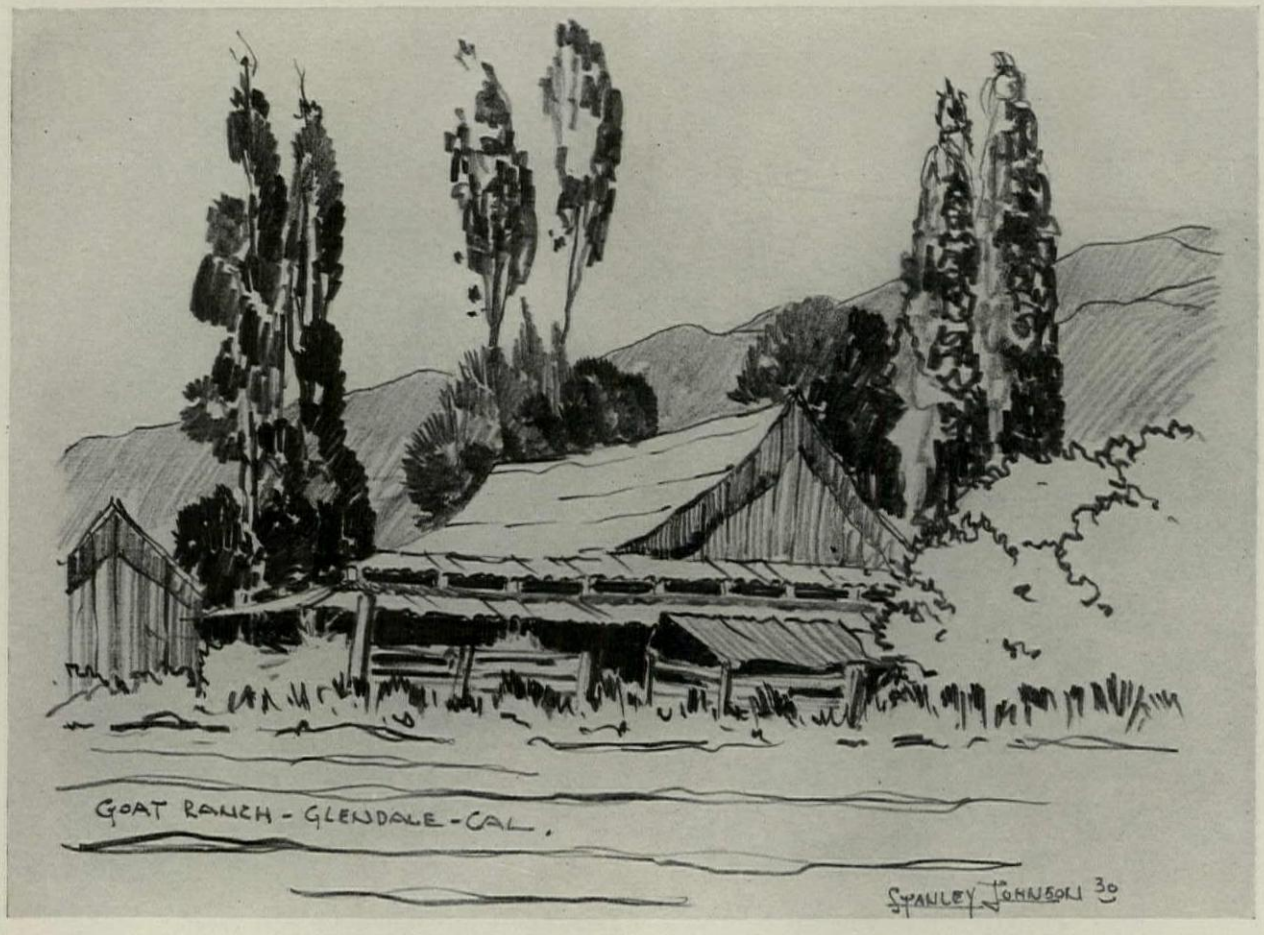
A n Architect is a person who
R arely has anything to do
C atches ideas right out of the blue,—
H e charges plenty for them too;
I n most respects, and these aren't few,
T hose fees belong to his poor crew,
E arned by them,—his work they do—
C ollections made to them are due
T hough spent by him, who does nothing but stew,
Oh Yeah? ! ! Sez Who?

CASTLES

By Evantha Caldwell

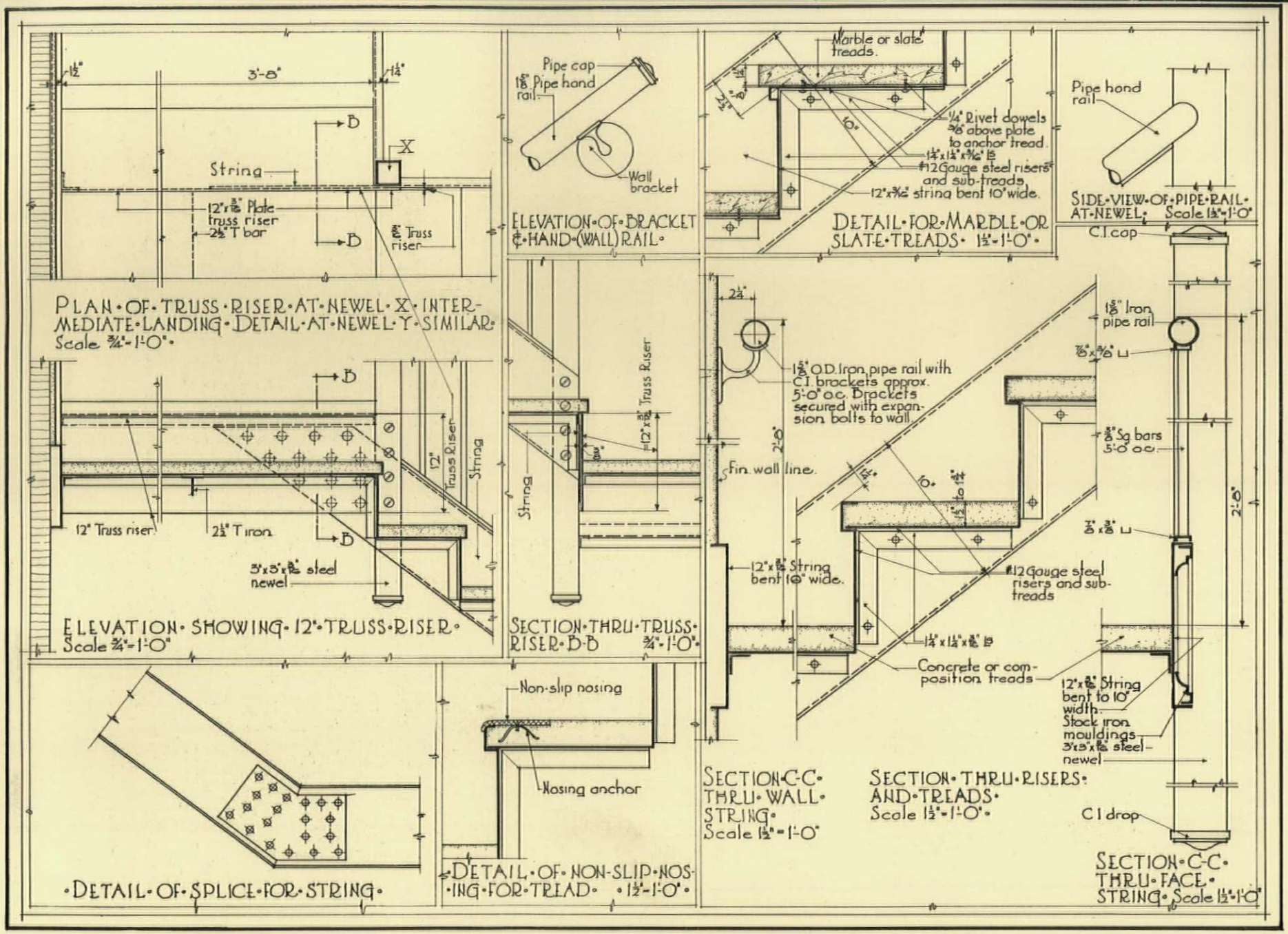
It was a dreamer's castle,
A structure, fair and high,
And perfect stood though toil-made ones
All crumbled by and by.

Idea castles, fragile, fair,
More lasting are, men found,
Than those of brick and stone with deep
Foundations in the ground.

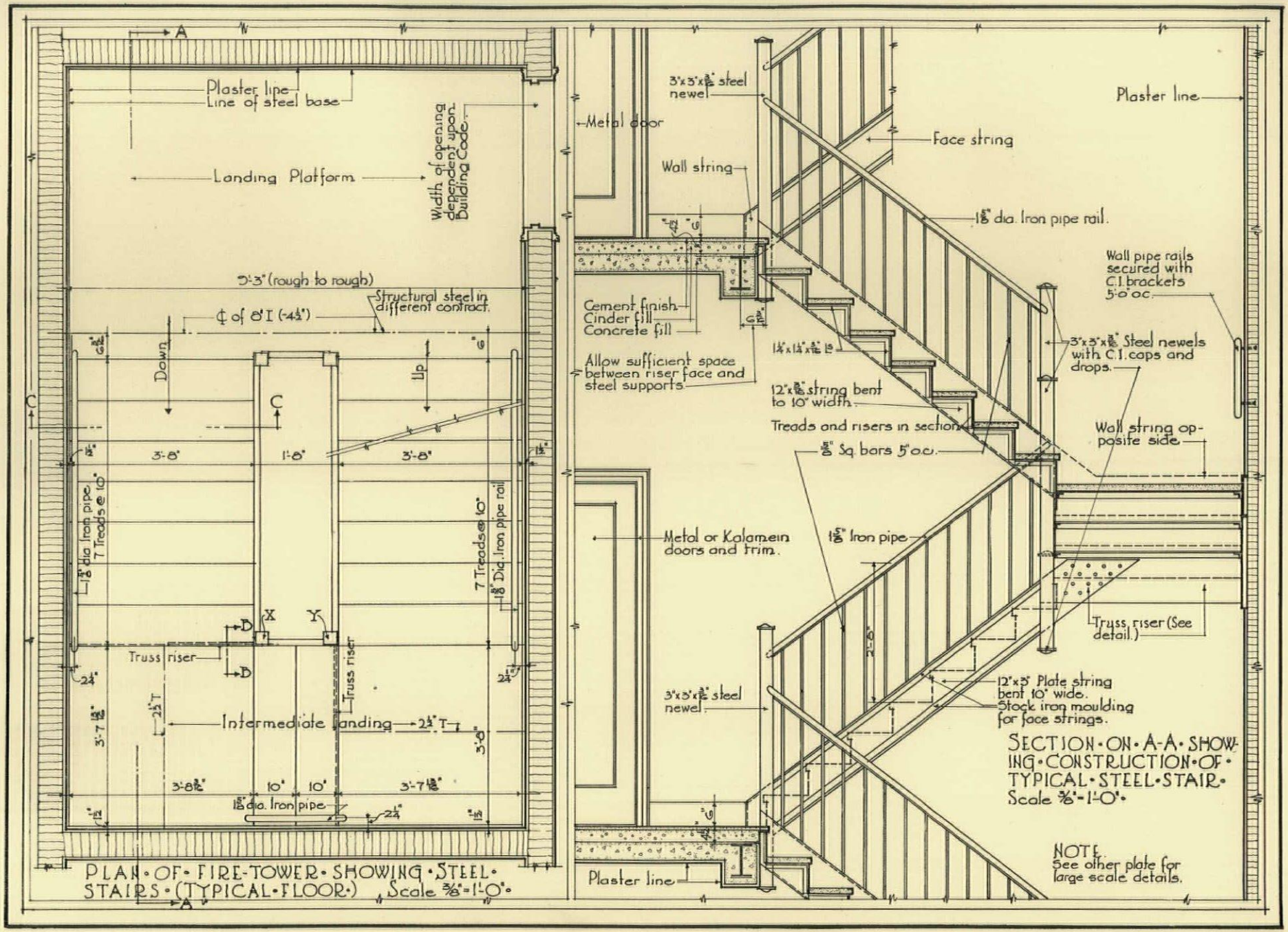


LITHOGRAPH PENCIL DRAWING BY STANLEY JOHNSON, LOS ANGELES, CALIFORNIA

Goat Ranch, Glendale, California



GOOD PRACTICE IN CONSTRUCTION—STEEL STAIR DETAILS—DRAWN BY PHILIP G. KNOBLOCH



GOOD PRACTICE IN CONSTRUCTION—STEEL STAIR DETAILS—DRAWN BY PHILIP G. KNOBLOCH

STRUCTURAL STEEL CREATED

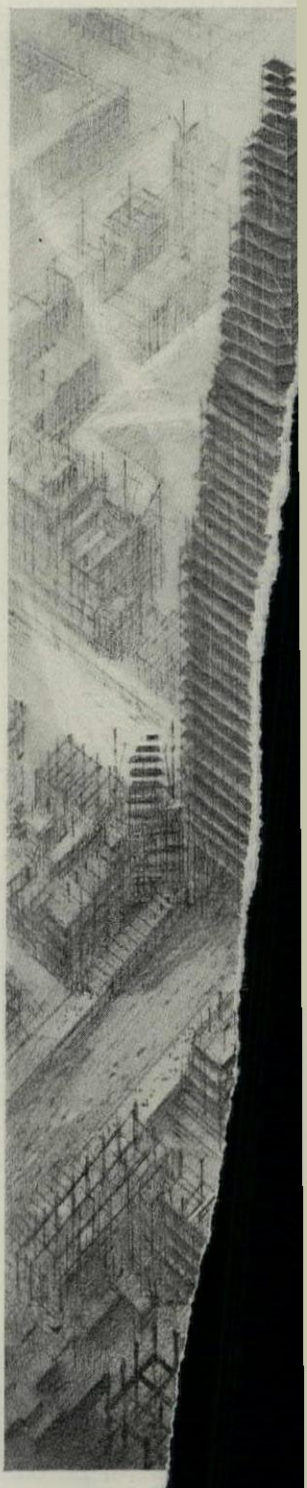
INEVITABLE . . . THE ALI

TODAY'S breath-taking spires and spans of steel were "impossible" only a few brief years ago. Now walls of masonry are yielding to solid-section steel windows . . . new beauty comes in steel shapes and new skill devises their application . . . and on the horizon looms the amazing battle-deck floor.

Eventually, cities will be all steel. Not only the skyscrapers and great bridges, but the homes, schools, small apartment and mercantile houses, small factories and small bridges as well. For steel is the strongest, most versatile and fastest building material. Fabricated in mills, weather cannot delay its production—and rain, intense heat, or freezing does not impair its strength. It can be erected anywhere, at any time, as long as men can work—thus earlier returns on invested capital are insured, interest charges are saved.

In cities, too, there is constant change, growth. Small structures give way to larger ones—must be altered, added to or replaced. Steel facilitates alteration and addition—and no other building material has such high salvage value, is so economically recovered, or is so readily marketed afterward.

Before building anything find out what steel can do for you. The Institute serves as a clearing house for technical and economic information on structural steel, and offers full and free co-operation in the use of such data to architects, engineers and all others interested.



"BUILDI
MENT, O
CHARGE

The co-operative non-profit service organization of the structural steel industry of North America. Through its extensive test and research program, the Institute aims to establish the full facts regarding steel in relation to every type of construction. The Institute's many publications, covering every phase of steel construction, are available on request. Please address all inquiries to 200 Madison Avenue, New York City. Canadian address: 710 Bank of Hamilton Bldg., Toronto, Ontario. District offices in New York, Worcester, Philadelphia, Birmingham, Cleveland, Chicago, Milwaukee, St. Louis, Topeka, Dallas, San Francisco and Toronto.

AMERICAN INSTITUTE OF

STEEL INSURES STREN

BLICATIONS

O THE SPECIFICATION WRITER

ent free unless otherwise noted, upon request, to readers of PENCIL POINTS *or these items please mention* PENCIL POINTS.

tractive brochure, e and its use in g suggested deco- nd kitchens, also usual field effects. Trenton, N. J. .A. File No. 9. trates the adapta- buildings. 20 pp. ark Avenue, New

neapolis Civic hitectural bulletin ling and ventilat- rint drawings. 8 ., Middletown, O. . File No. 15-a. ze, monel, nickel a and many pages Newman Manu-

Fritted Glaze rs the various interior or ex- al Fireproofing

erground Clay mplete descrip- duit adaptable al buildings. p. 8½ x 11.

y.—Revised hly the sub- strial plants. showing the also infor- ta, illumina- c Mfg. Co.,

Vacuum 0 completely d of rotary n pressures. 8½ x 11.

ling folder for archi- f concrete signs, wall Standard , Chicago,

bulletin operation g boilers Warren

publi- char- tions. Co.,

ions how n &

us- his nd ls. th

n s, .

Steel Partitions by Snead.—A.I.A. File No. 28-a-3. New bulletin describing Snead type M all-steel and steel and glass partitions. Numerous interesting installations are illustrated. 8 pp. 8½ x 11. Snead & Company, Pine St., Jersey City, N. J.

Northwestern Wall Blocks.—A.I.A. File No. 9-c. New document describes in detail this type of wall block adaptable for wainscoting and interior wall facing in power plants, water works, terminals, telephone exchanges, etc. Specifications, detail drawings. 8 pp. 8¼ x 11. The Northwestern Terra Cotta Co., 2525 Clybourn Ave., Chicago, Ill.

The Modern Garage.—A.I.A. File No. 35-m-3. Handsome brochure contains much useful data for architects and engineers on the subject of modern multi-floor garages with particular references to d'Humy Motoramps for interfloor travel. Design data, blueprint layouts, illustrations and list of installations. 40 pp. Standard filing size. Ramp Buildings Corporation, 21 East 40th St., New York, N. Y.

Holland Vaporaire Heating.—A.I.A. File No. 30-b. Document prepared especially for architects on this type of heating system contains complete specifications, plans, sectional views, data, etc., for a standard Vaporaire installation. 16 pp. 8½ x 11. Holland Furnace Co., Vaporaire Division, Holland, Mich.

Herwig Exterior Lighting Fixtures.—Catalog No. 30 lists and illustrates more than 200 designs of cast iron and bronze lighting fixtures suitable for use on the exterior of apartment and public buildings, churches, residences, country clubs, etc. Indexed. 40 pp. 8½ x 11. The Herwig Co., 1753 Sedgwick St., Chicago, Ill.

New Beauty and Utility in Plumbing Fixtures.—Attractive new publication covering a representative line of Kohler plumbing fixtures for bathrooms, kitchens and laundries, also electric dishwashers and clotheswashers. Numerous combinations of bathroom fixtures are illustrated and described in detail. Tables of sizes and prices. 36 pp. Kohler Co., Kohler, Wis.

The Aqualator.—A.I.A. File No. 30-f-1. New bulletin presents specifications and complete information covering the design, operation and installation of this air humidifying and washing device for use in homes, offices, industrial buildings, etc. 8 pp. 8½ x 11. The Wilcolator Co., Aqualator Division, 17 Nevada St., Newark, N. J.

Waterproof Construction with Truscon Waterproofings and Dampproof Paints.—Valuable reference book for architects and specification writers on the subject of waterproof construction, applicable to factories, office buildings, hotels, hospitals or dwellings, also swimming pools, elevator pits, tanks, etc. Specifications, detail drawings, estimating tables, directions, etc. Copies of this limited edition distributed to architects gratis. 100 pp. 6 x 8½. Stiff covers. The Truscon Laboratories, 1637 Caniff St., Detroit, Mich.

The Facts About Salubra.—A.I.A. File No. 28-c-2. New bulletin describing the structural, decorative and practical advantages of this washable, fadeless wall covering suitable for use in hotels, clubs, residences, hospitals, etc. 8½ x 11. Frederic Blank & Co., 230 Park Ave., New York, N. Y.

The Brownell Ideal Home Stoker.—Bulletin IH-10 describes this type of automatic stoker for use in domestic installations with bituminous coal. 8 pp. 8 x 10. The Brownell Co., Dayton, O.

Westinghouse Panelboards.—A.I.A. File No. 31-d-3. Special publication No. 1890 presents typical specifications and other useful data for architects and engineers covering this line of panelboards. 12 pp. 8½ x 11. Westinghouse Electric and Mfg. Co., East Pittsburgh, Pa.

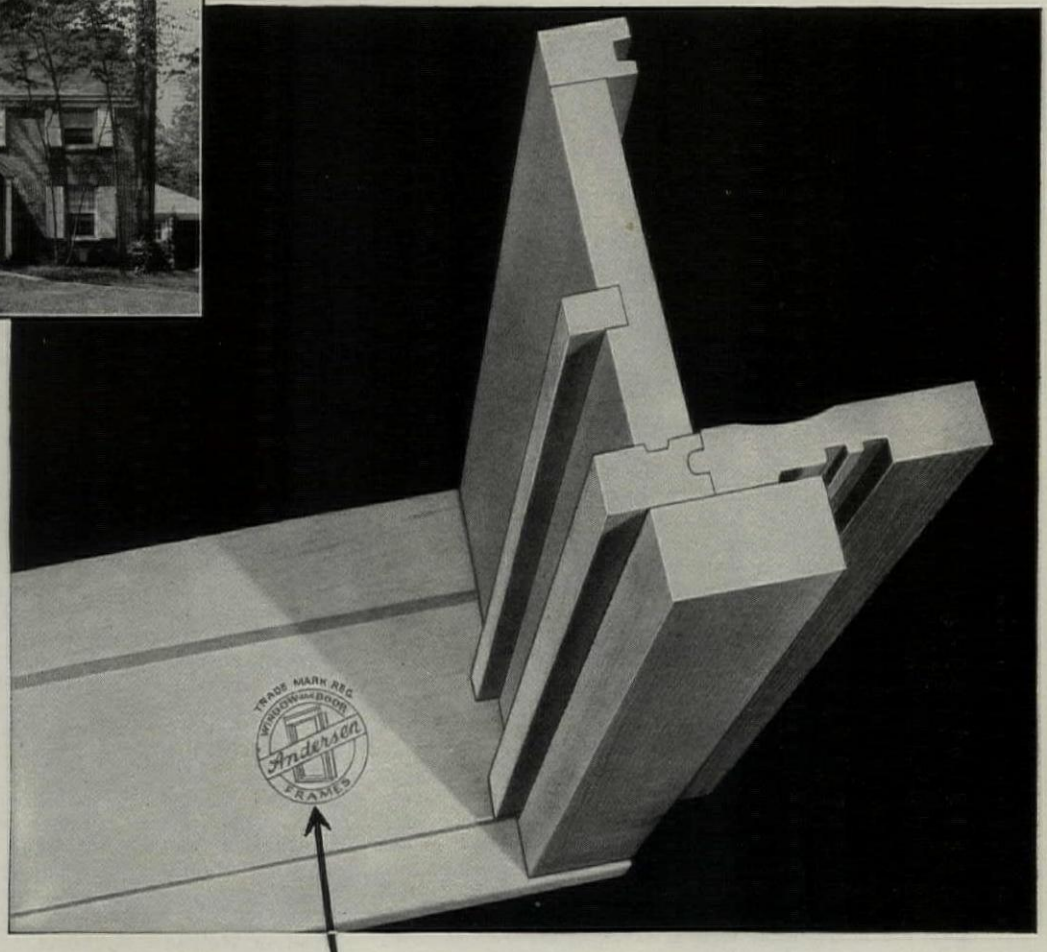
Pacific Red Crest Welded Steel Boilers.—A.I.A. File No. 30-c-1. Bulletin R. T. 30 gives descriptive and engineering data covering this new line of boilers for heating residences, bungalows, small apartments, etc. Specifications, measurements, blue prints. 12 pp. 8½ x 11. Pacific Steel Boiler Co., First National Bank Bldg., Detroit, Mich.

Published by the same firm, "Pacific Steel Heating Boilers." A.I.A. File No. 30-c-1. Bulletin SC-30. Complete data on this type of heating boiler adaptable to mechanical firing with oil, gas or stokers for installation in all types of buildings. Color plates, tabular matter, blue prints. 16 pp. 8½ x 11.

"The Low Water Line Series of Pacific Steel Heating Boilers." A.I.A. File No. 30-c-1. Bulletin L.W.L. 30. Useful descriptive and engineering data on subject indicated. 12 pp. 8½ x 11.

Orange Aluminum Window Ventilators.—Illustrated folder setting forth the advantages of this new type of window ventilator. 4 pp. 8½ x 11. Orange Screen Co., Maplewood, N. J.

Architects turn to this new frame with locked sill-joint for better construction



Andersen Master Frame for brick veneer buildings, Model No. 651.

To get greater building value, per every dollar invested, architects today are turning more and more to the new Andersen Master Frame with the new locked sill-joint construction.

Now they get real custom frame value at stock frame price—plus a big saving in labor costs—with Andersen Master Frames.

They appreciate the genuine white pine, the chamfered blind stop, the steep sill slope, the inside liner, the noiseless pulleys—the many other exclusive Andersen features.

You should learn about the new Andersen Master Frames—made to fit your most rigid specifications. Write today for your copy of our new Andersen Master Frame catalog, No. 500.

ANDERSEN FRAME CORPORATION, Bayport, Minn., represented by three thousand five hundred leading jobbers and dealers.

Andersen MASTER WINDOW and DOOR Andersen FRAMES Frames

FOR WEATHERTIGHT INSTALLATIONS—USE ANDERSEN SPECIFICATIONS

A Free Employment Service for Readers of Pencil Points

Replies to box numbers should be addressed care of PENCIL POINTS, 419 Fourth Avenue, New York, N. Y.

Position Wanted: Architectural draftsman and designer wishes connections with western or out of town architect. Four years' experience, good all-round detailer and renderer. Box No. 1101, care of PENCIL POINTS.

Position Wanted: Architectural designer, registered architect, 17 years' experience in New York City on all types of city work such as hospitals, schools, churches, banks and residences. Also specialist in Colonial designs. Would like a permanent position with an architect who can appreciate conscientious and earnest endeavor. Box No. 1102, care of PENCIL POINTS.

Position Wanted: Young man, 8 years' general architectural and construction experience, desires to make connection with a firm of architects or contractors as draftsman and office manager or superintendent of construction. Has had 2 years' supervision on New York office building construction. Salary secondary to a position assuring advancement. Box No. 1104, care of PENCIL POINTS.

Position Wanted: Young architectural designer and draftsman, 8 years' experience on high class country residences, theatres, hospitals, office buildings, apartments, etc. Experience has involved designing and carrying plans through to completion and superintending, figuring steel and rendering. Part time work preferred. Location Boston or vicinity. Box No. 1105, care of PENCIL POINTS.

Position Wanted: Young man, 24, High School graduate, desires position in architect's or contractor's office. Five years' practical experience. Has supervised construction of buildings for the past two years. Salary secondary. Box No. 1106, care of PENCIL POINTS.

Position Wanted: Neat, capable draftsman, who has had experience in making sketches, working drawings and full size details of high class residences and other buildings, desires position in architect's office. Location immaterial. Box No. 1107, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, college training, 5 years' practical experience in architect's office, desires connection with reputable firm of architects. Box No. 1108, care of PENCIL POINTS.

Position Wanted: Young man with architectural training and editorial experience desires position with architectural or allied trades magazine. Box No. 1109, care of PENCIL POINTS.

Position Wanted: Designer, one with extensive experience in offices of the East, doing work of a monumental, commercial and residential character. Graduate of C. I. T. Able at presentation, plan and composition. Would prefer office which could use man of creative ability. No choice in location. Box No. 1110, care of PENCIL POINTS.

Position Wanted: Registered architect, college graduate, 15 years' experience covering all phases of the profession, and capable of taking complete charge of any or all phases of the profession, desires an executive position with reputable architectural office or an association with a smaller reputable architect. Prefer central or middle west section but will consider any location. Box No. 1111, care of PENCIL POINTS.

Position Wanted: Architectural draftsman and designer, 20 years' continuous experience in leading architectural offices, specializing in schools, churches, commercial buildings, power houses, residences, etc. Age 40. Will consider any location. Box No. 1113, care of PENCIL POINTS.

Position Wanted: Architectural designer, detailing, perspectives and renderings of interior decoration in any style. Specialize in church marble works and estimating in Italian cost. Also able to contract works from Italy. Ten years' experience, three in New York. Box No. 1114, care of PENCIL POINTS.

Position Wanted: Recent graduate of a recognized architectural school. Have had 6 months' experience. Prefer position in an office where they specialize in residential work. Only sufficient salary will please the applicant. Box No. 1115, care of PENCIL POINTS.

Position Wanted: Woodwork draftsman, four years' experience on store display cases, refrigerators, shelving, wall paneling, etc. Full size details, shop drawings and shop bills. Can make water color perspectives, estimates and specifications. Absolute knowledge of shop practice from actual experience. Capable of handling shop supervision. Executive ability. Age 29. Married. Box No. 1117, care of PENCIL POINTS.

Wanted: A buyer for my well established architectural office in an east-central city in South Dakota. Reason, poor health. A partial list of work done the past 24 years, together with all future prospective work, exhibited to real buyer—a splendid future list on tables now. Office equipped with electric blueprinter, four drafting tables, drafting machine, two office desks, etc. One of the very best equipped offices in the northwest. Invoiced at $3200 unencumbered. Any information furnished confidentially. Box No. 1116, care of PENCIL POINTS.

Position Wanted: Architectural draftsman. Sketches, working drawings, checking architectural, steel and mechanical plans. Thoroughly experienced. Wishes to connect with high grade architect. Box No. 1118, care of PENCIL POINTS.

Position Wanted: Architect, designer, executive and solicitor desires connection with reputable architect. 40 years old, wide experience in planning of banks and commercial buildings. Box No. 1119, care of PENCIL POINTS.

Position Wanted: Registered architect in Kentucky with 10 years' experience. Two and one-half years' private practice. Capable of interviewing clients, preparing studies, sketches, renderings, working drawings, details and supervision. Would like trial position at fair salary with prospect of permanent position if satisfactory. B.A.I.D. training. Age 28. Box No. 1120, care of PENCIL POINTS.

Position Wanted: Young man, 21 years old, desires position with Chicago architect or builder. One year of University training. Hard worker and willing to undertake any job. Salary moderate. Attending evening classes. H. T. Gajkowski, 1940 So. Clifton Park Ave., Chicago, Ill.

Position Wanted: Young man, 29, as plumbing man with architect or builder. Five years' training, 6 years' practical experience, the last two at layouts and estimating for large contractor. Location New York City. I. L. Slater, 1070 Washington Avenue, Bronx, N. Y.

Position Wanted: Young man, 20, two years in first-class architectural school, two summers on construction, desires position in architect's office, preferably in eastern Pennsylvania. Can do tracing, simple perspective and some detailing. Living salary. B. F. Hunt, Jr., Mechanicsburg, Pa.

Position Wanted: Junior architectural draftsman, graduate, willing worker, good tracer. Albert Michalek, Jr., 160-05 57th Avenue, Flushing, L. I.

Position Wanted: Junior architectural draftsman, neat, clean, honest and reliable worker. Graduate. Edward Tesar, 338 East 73rd St., New York, N. Y.

Position Wanted: Architect, bulk of training, experience and private practice in New York City, wishes connection or opportunity for partnership in Middle West. C. J. Kidder, 11 Starlight Road, Long View, S. I.

Position Wanted: Architectural draftsman, seven years' experience on office buildings, schools, hospitals and residences. Sketches, working drawings, scale and full size details. Age 26. Married. Reasonable salary. Northeastern State preferable. Clarence H. Pratt, 279 Harrison St., Manchester, N. H.

Position Wanted: Young architect would like position with architect. Prefer New England or New York location but will consider other localities. Box No. 1121, care of PENCIL POINTS.

Position Wanted: Gothic designer and draftsman, 9 years' experience. Box No. 1122, care of PENCIL POINTS.

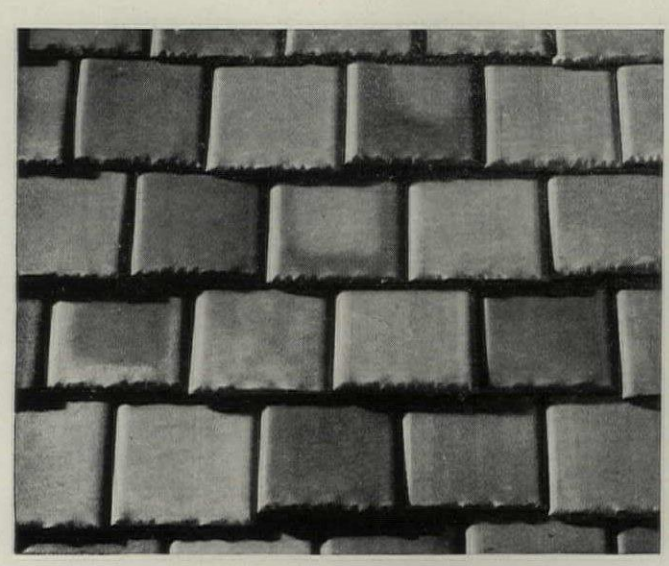
Position Wanted: Graduate best architectural school, European experience, ten years with McKim, Mead & White and other New York offices designing, rendering, specifications, superintendence, office management. Prefer within 100 miles of New York or in New England. Box No. 1123, care of PENCIL POINTS.

Position Wanted: Draftsman would like to work for architect or construction company doing work in Russia. Box No. 1124, care of PENCIL POINTS.

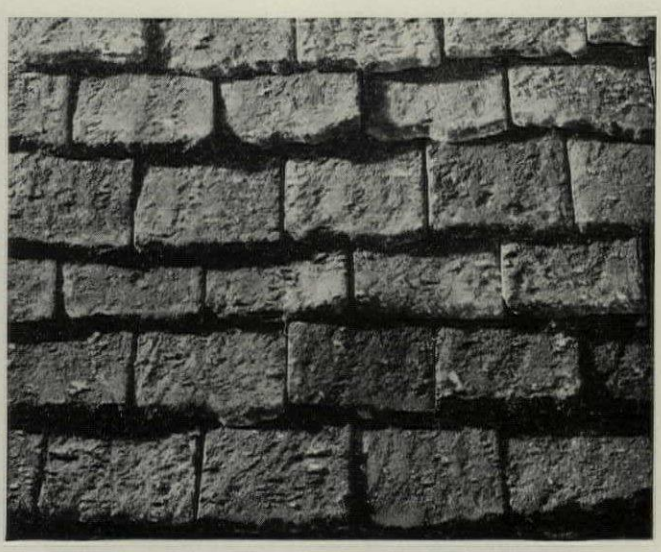
Position Wanted: Architectural draftsman open for position on building or miscellaneous lines in central states. Moderate salary. Edward Lechner, 1859 East 70th Street, Cleveland, Ohio.

Position Wanted: Junior draftsman wishes position in architect's office. Ferdinand J. Moscatiello, 411 East 118th Street, New York, N. Y.

(Other items on pages 80 and 81, Advertising Section)



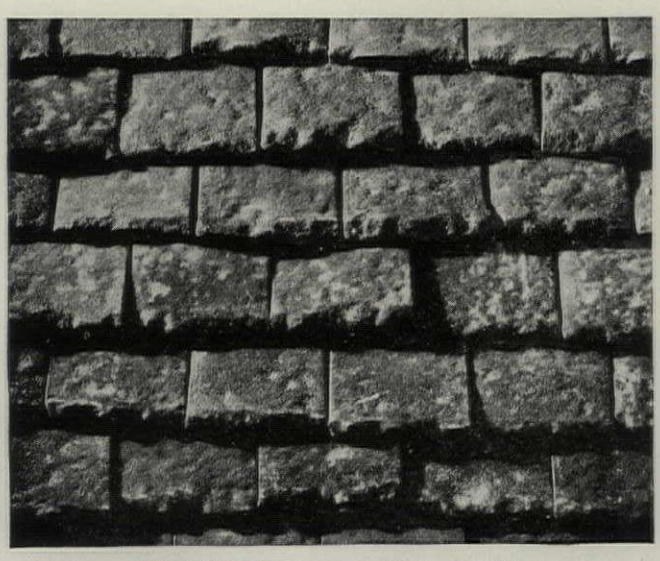
IMPERIAL Provincial Shingle Tiles



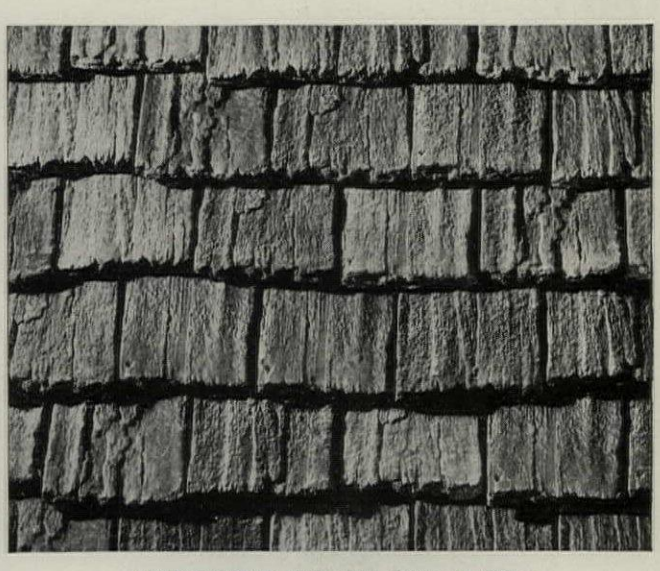
IMPERIAL Antique Shingle Tiles

THERE ARE MANY PATTERNS OF IMPERIAL SHINGLE TILES FROM WHICH TO CHOOSE

Pictured here are four of the many patterns in which IMPERIAL Shingle Tiles now are available. They range from surprisingly inexpensive machine made tiles to somewhat higher priced hand treated ones. Wide variations as to color and surface texture make it possible to satisfy individual requirements of taste and design, no matter how particular. Write for folder which illustrates the entire line of IMPERIAL Shingle Tiles.



IMPERIAL Brittany Shingle Tiles



IMPERIAL Colonial Shingle Tiles

LUDOWICI-CELADON COMPANY

Makers of IMPERIAL Roofing Tiles

NEW YORK: 565 FIFTH AVENUE 104 S. MICHIGAN AVENUE, CHICAGO WASHINGTON: 738 FIFTEENTH ST., N. W

A FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items opposite and on page 78, Advertising Section)

Position Wanted: Draftsman, 5 years' experience making course plans, shop drawings and full-size details, etc. Can also estimate accurately. Experience along above lines was secured while in the employ of architects as well as a wholesale monumental and mausoleum concern. Frank Prestigiacomo, 2042 Hobart Ave., Bronx, N. Y.

Position Wanted: Mr. Architect, why worry about that hospital job? Let me handle it for you, from preliminary sketches to finished working drawings. This is your one best bet to make a good profit, and to give your clients an A-1 job. A hospital specialist solicits your inquiries. Box No. 1125, care of PENCIL POINTS.

Position Wanted: Junior architectural draftsman, 2 years' experience residence and apartment houses. Good letterer. Salary secondary, desiring a position that assures advancement. Box No. 1126, care of PENCIL POINTS.

Position Wanted: Nine years' architectural terra cotta draftsman, 8 years' yacht and ship interiors. Good structural and mechanical knowledge. Technical education. Married. Age 37. Would like to connect with same or allied trades. Away from drawing board if required. Box No. 1127, care of PENCIL POINTS.

Position Wanted: Young single man (29), two years' technical training in architectural construction would like to hear from a builder, architect, building materials firm or others, regarding position. Much business experience with thorough knowledge of office routine, stenography, etc. Some selling experience. Would be interested in position combining field and office, and would consider selling building material. Prefer locating in Connecticut, but would give consideration to any good offer. Box No. 1128, care of PENCIL POINTS.

Position Wanted: Young man, 17, graduate of New Utrecht High School, desires position in architect's office as beginner. Now studying architecture at Pratt Institute. Frank Majeski, 185 32nd Street, Brooklyn, N. Y.

Position Wanted: College graduate, married, 28, Jewish, desires position as designer with architect. Six years' experience with varied work. Can do sketches, rendering, working drawings and details. Would like to connect with growing office in Northwestern Ohio or Southern Michigan. Box No. 1129, care of PENCIL POINTS.

Position Wanted: Specification writer, superintendent, detail draftsman, desires position in New York or vicinity with architect on country house work. Twelve years' experience. On last job four years. Permanent. Box No. 1130, care of PENCIL POINTS.

Position Wanted: Builders, General Contractors or Architect! Young man, 22, technical school graduate, attended Columbia University. Good address, energetic and dependable, desires connection in good office or field. Compensation secondary to position where advancement is assured. Box No. 1131, care of PENCIL POINTS.

Position Wanted: Junior architectural draftsman with two years' experience, neat and accurate. Monumental and building work. Suitable references. Twenty-three years of age. Would like position in New York City. Frank Ferri, 456 East 116th Street, New York, N. Y.

Position Wanted: Architectural draftsman, married, desires position in any location. Has had seven years' experience on all types of building and alterations, including residences, apartments, stores, etc. Salary $45 per week. Charles A. Scott, 34 Francis Avenue, Trenton, N. J.

Position Wanted: Young man desires position as beginner in architect's office. Three years' Night School at Cooper Union. Willing to make self generally useful. Barry Bochinski, 118 Fulton St., Boonton, N. J.

Position Wanted: Junior draftsman. Prefer work in New York City. Salary optional. Frank Swit, 53 Elm Place, Amityville, L. I., N. Y.

Position Wanted: Registered architect of all-round experience desires connection where the drafting ability and all-round knowledge of architecture would be of service. Box No. 1132, care of PENCIL POINTS.

Space for Rent: Architect in the Grand Central Zone has available space which he desires to share with architect or engineer, at a reasonable rental. Space is airy and light and no drafting room equipment is required. The rentee is also provided with desk space and stenographic service if he wishes. Box No. 1133 care of PENCIL POINTS.

A FREE EMPLOYMENT SERVICE FOR READERS OF PENCIL POINTS

(Other items on pages 78 and 80, Advertising Section)

Position Wanted: A young woman with 8 years' practical experience in architectural and interior design desires connection with architect or interior decorator. Graduate of the Art Institute of Chicago and the New York School of Interior Decoration, also student of New York University. Excellent references. Box No. 1134, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, 10 years' all-round experience on various classes of work. Location immaterial for work over four months. References. Salary secondary. Box No. 1135, care of PENCIL POINTS.

Position Wanted: In architect's office. Two years' experience. Third-year student of architectural design. N. Y. U. Salary optional. Box No. 1136, care of PENCIL POINTS.

Position Wanted: Young man, U. of P. graduate, two years' experience including all phases of architectural work as well as interior and metal design and familiar with modern detail, wants position. Will go anywhere. Box No. 1137, care of PENCIL POINTS.

Position Wanted: Stenographer, three and one-half years' experience. High School graduate. Familiar engineering, architectural terms; specifications; switchboard, office routine, accustomed meeting public. Intelligent, accurate, conscientious. Also industrial experience. Now residing in Connecticut. $25—$30. Box No. 1138, care of PENCIL POINTS.

Position Wanted: Landscape architect, graduate of Cambridge School. Five years' experience in first-class office, wishes position in landscape architect's or general architect's office, or with Park Commissioner. Can do architectural details. Would be glad to combine landscaping with drafting or to do detail in an architect's office. Box No. 1139, care of PENCIL POINTS.

Position Wanted: Architect's superintendent, 16 years' experience on factories, schools, court houses, apartments and theatres. V. Molander, 9254—175th Street, Jamaica, N. Y.

Position Wanted: Young ambitious boy just completed architectural course wishes position as Junior draftsman or office boy in architect's office. Is now attending night school. Small salary to start. Domenic Ditrano, 325 East 120th Street, New York, N. Y.

Position Wanted: Architectural draftsman experienced on apartment houses, public garages, dwellings, alterations. Can design steel for same. Desirous of position with architect or builder full or part time. William Dorfman, 322 Snediker Ave., Brooklyn, N. Y.

Position Wanted: Architectural draftsman, good letterer and tracer, willing worker. Albert Mickalek, Jr., 160-05 47th Ave., Flushing, N. Y.

Position Wanted: Registered architect, twelve years in private practice and as office manager in New York City and the middle west, wishes to make connection with reputable architectural office as office manager or in executive capacity. University graduate and very extensively traveled in Europe and the United States. A.I.A. and past president of one of its Chapters. Broad general experience and thoroughly versed in all phases of architectural practice. Man of culture and social standing. Box No. 1140, care of PENCIL POINTS.

Position Wanted: Young man capable of making sketches, working drawings and full size details of country residences and other buildings. Neat, accurate worker. Box No. 1141, care of PENCIL POINTS.

Position Wanted: Architectural draftsman, college graduate, 4 years' experience on churches, residences, apartments, hotels, banks and office buildings. Sketches, details, etc. One year as superintendent of construction in Europe. Desires permanent position in New York City. Box No. 1142, care of PENCIL POINTS.

Position Wanted: Young lady, graduate of M.I.T., would like position in architect's office in New York City as beginner. Is willing to help with office work as well as drafting. Modest salary. Box No. 1143, care of PENCIL POINTS.

Position Wanted: Registered architect and engineer desires responsible connection with reputable architectural firm where salary and advancement will be commensurate with initiative and ability. Broad experience in all phases of architectural practice. Thirty years of age and have a family. Box No. 1145, care of PENCIL POINTS.

Architects and Draftsmen: Opportunity for young man as associate with one of the oldest, successful architects' firms in Detroit. References and capital required, for 49% interest. Box No. 1146, care of PENCIL POINTS.

NOT ONLY~ WHO ~BUT ALSO HOW MUCH ~AND THEN WHY

Among the Users of Duriron Drain Pipe

BETH ISRAEL HOSPITAL, New York City
Louis Allen Abramson, Architect
Jaros & Baum and A. E. Hansen, Engrs.

FIFTH AVENUE HOSPITAL, New York City
York & Sawyer, Architects

MT. SINAI HOSPITAL, Cleveland, O.
Charles R. Greco, Architect
Mayer & Valentine, Engrs.

MICHAEL REESE HOSPITAL, Chicago, Ill.
Schmidt, Garden & Martin, Architects

PASSAVANT HOSPITAL, Chicago, Ill.
Holabird & Roche, Architects
J. A. Sutherland, Engineer

STATE OF MAINE HOSPITAL, Bangor, Me.
Coolidge & Carlson, Architects

HURLEY HOSPITAL, Flint, Mich.
Thielbar & Fugard, Architects

JEWISH HOSPITAL, St. Louis, Mo.
Graham, Anderson, Probst & White, Archts.

UNIVERSITY OF BUFFALO
McKim, Mead & White, Architects

UNIVERSITY OF ILLINOIS (now building), Urbana, Ill.
James M. White, Architect
Charles A. Platt, Consulting Architect

CHRYSLER MOTOR CAR CO. CHEMISTRY LABORATORY, Detroit, Mich.
Smith, Hinchman & Grylls, Architects

AMHERST COLLEGE, Amherst, Mass.
McKim, Mead & White, Architects
Tenney & Ohmes, Inc., Engineers

VILLA NOVA COLLEGE, Villa Nova, Pa.
Paul Monaghan, Architect
Wm. P. Ogelsby, Engineer

DUKE UNIVERSITY (now building), Durham, N. C.
Horace Trumbauer, Architect
Isaac Hathaway Francis, Engineer

WEST TEXAS TECHNICAL SCHOOL, Lubbock, Tex.
Sanguinet, Staats & Hedrick, Architects
R. F. Taylor, Engineer

JOHNS HOPKINS UNIVERSITY, Baltimore, Md. School of Hygiene and Public Health
Archer & Allen, Architects
C. L. Reeder, Engineer

COLUMBIA UNIVERSITY, New York City Teachers College
McKim, Mead & White, Architects
Werner Nygren, Engineer

NEW YORK STATE PSYCHIATRIC INSTITUTE, New York City
Sullivan W. Jones, Architect

UNIVERSITY OF KENTUCKY, Lexington, Ky.
Coolidge & Shattuck, Architects

HENRY FORD SCHOOL OF NURSING, Detroit, Mich.
Albert Kahn, Inc., Architects

UNIVERSITY OF TENNESSEE MEDICAL SCHOOL, Memphis, Tenn.
Jones & Furbringer, Architects

SOUTHWESTERN PRESBYTERIAN UNIVERSITY, Memphis, Tenn.
Henry C. Hibbs, Architect

NEW YORK UNIVERSITY, New York City
William S. Gregory, Architect

NEW YORK LIFE INSURANCE CO., New York City
Cass Gilbert, Architect

UNIVERSITY OF INDIANA (now building), Bloomington, Ind.
Robert Frost Daggett, Architect
Charles R. Ammerman, Engineer

UNIVERSITY OF PENNSYLVANIA, Philadelphia
J. T. Windrim, Architect

Seek out not only where DURIRON is used, but how extensively, and with what history. No Duriron Drain Pipe in service for which we recommend it has ever failed because of corrosion. Calked joints stay tight. Experience among those named right here points to the basic economy of specifying "Duriron Throughout" as original equipment. Temporary plumbing is out of place in a building created for generations to come.

For data:—Our Catalog is filed in Sweet's

THE DURIRON COMPANY, INC., 420 N. Findlay Street, Dayton, Ohio . . . . . .

Sales Offices in 36 Principal Cities

DURIRON ACID PROOF DRAIN-PIPE

Yeomans Pumps Chosen for Chicago Board of Trade

THE new home of the Chicago Board of Trade, towering forty-four stories above La Salle Street, stands out as a monument to modern methods and progress.

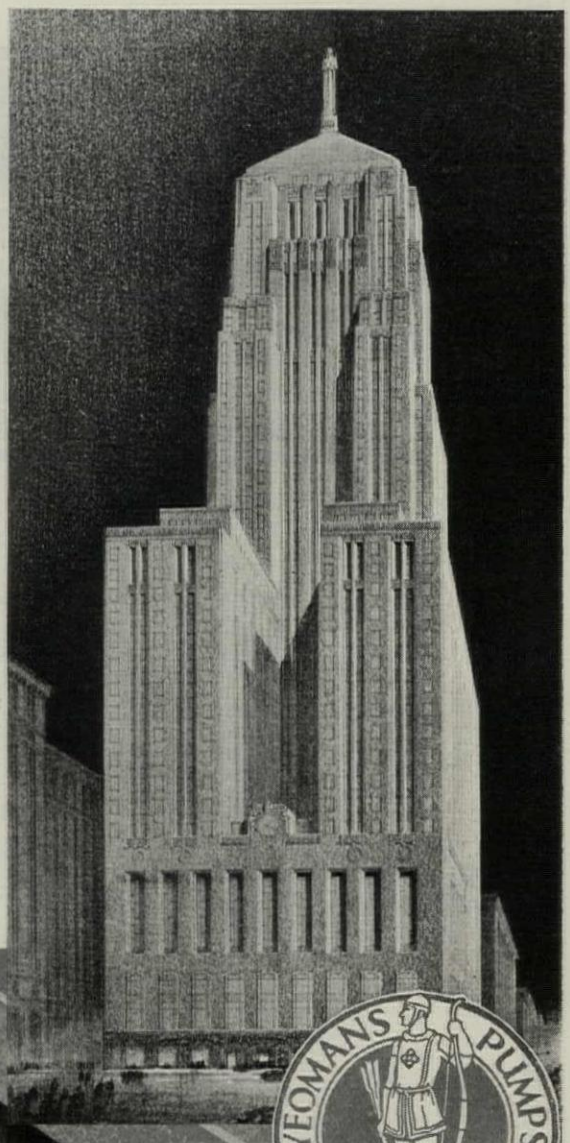
It is interesting that for this building housing the world's largest commodity exchange, two Yeomans-Shone Duplex Pneumatic Sewage Ejectors were selected to handle the sewage and drainage requirements. Here again is further evidence that where the best equipment is required, Yeomans gets the call.

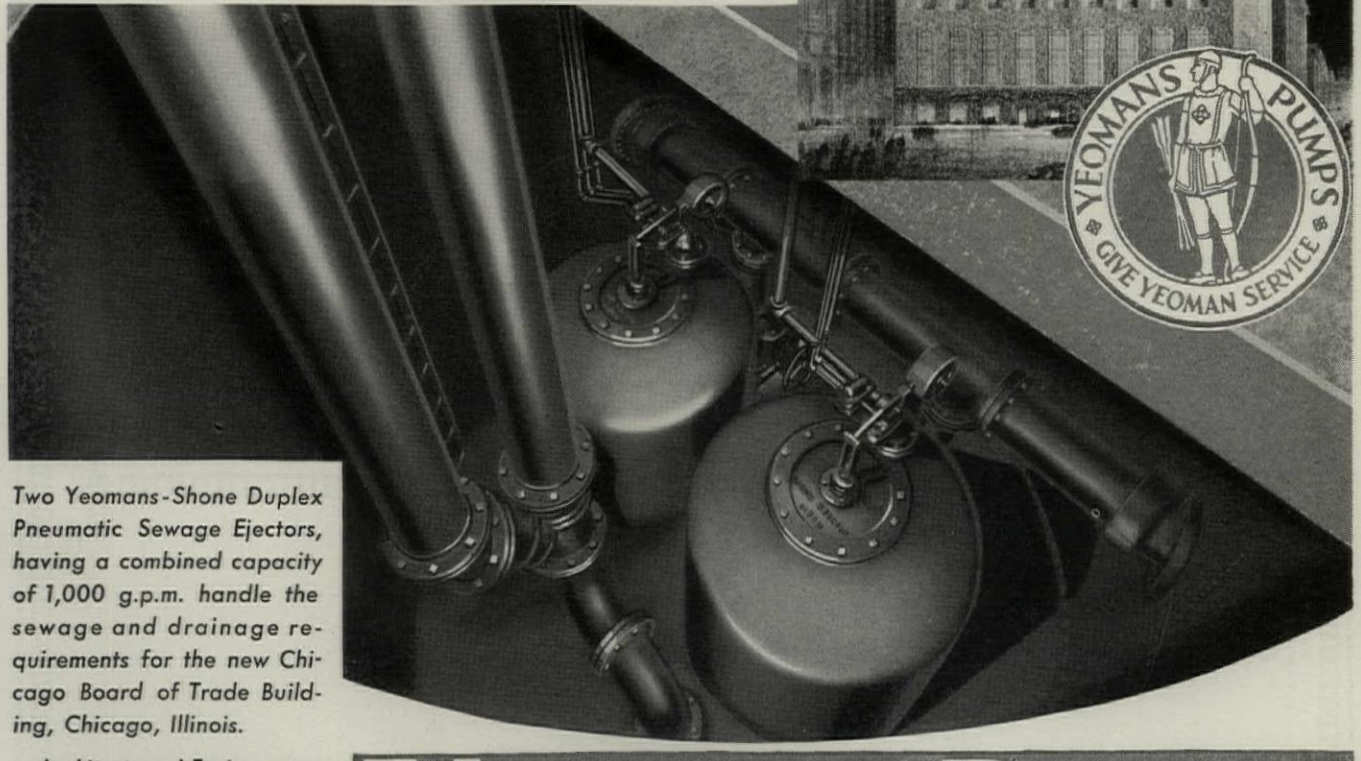
Yeomans-Shone ejectors insure against clogging. Their established records for dependability mean more years of economical pumping at less cost. Being completely automatic, this trouble-free equipment is installed out of the way, saving valuable space. Yet it is completely accessible for inspection.

The money-saving advantages of Yeomans Pumps please the owner and reflect credit on the sound judgment of architect, engineer, or contractor.

We shall gladly send you catalogs and more detailed facts on the money-saving advantages of Yeomans Pumps. Write today; there is no obligation.

YEOMANS BROTHERS COMPANY
1448 Dayton Street, Chicago, Illinois
Representatives in Principal Cities





Two Yeomans-Shone Duplex Pneumatic Sewage Ejectors, having a combined capacity of 1,000 g.p.m. handle the sewage and drainage requirements for the new Chicago Board of Trade Building, Chicago, Illinois.

Architects and Engineers:
Holabird & Root

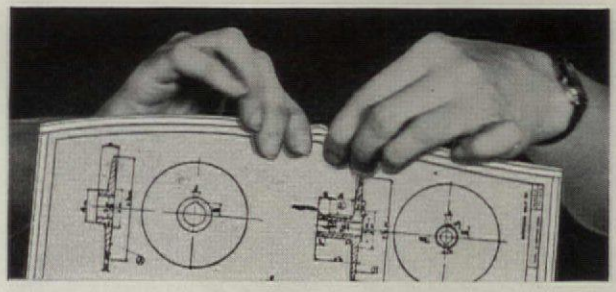
Plumbing Contractor:
M. J. Corboy

Yeomans Pumps
SEWAGE *and* DRAINAGE

P.P.-11 Gray

. . . *Protect your* VALUABLE TRACINGS *from* Mutilation *and* Destruction *with*

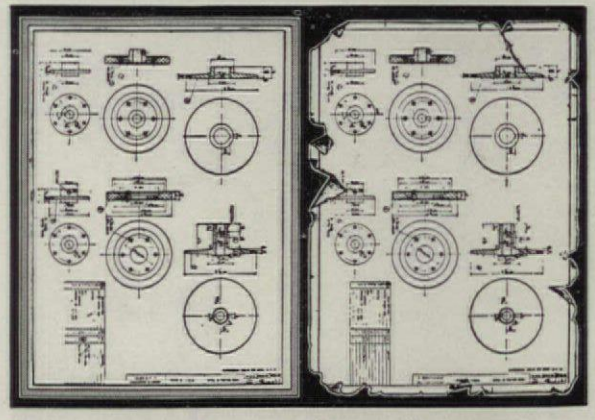
Prakma



TRY THIS ON ONE OF YOUR DRAWINGS OR TRACINGS AND SEE WHAT HAPPENS!

It is the double strength linen thread that lies inside the tape against the edge of the paper that eliminates tearing and complete destruction which follows continued use of ordinary drawings.

●

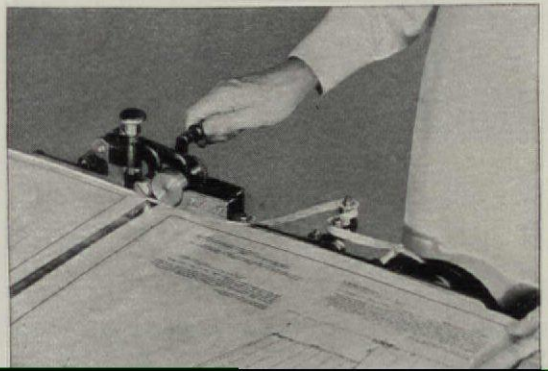


This photograph shows a drawing that has been thread edged by the Prakma process. It is practically impossible to tear the edge of this tracing.

This shows the condition of the average drawing after continued use.

●

PRAKMA MACHINE IN ACTION



PRAKMA furnishes the only practical means of protecting valuable original drawings and tracings against destruction.

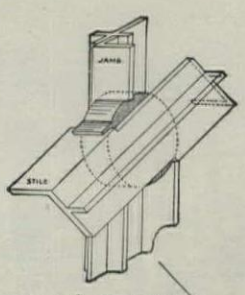
PRAKMA thread edging can be applied on original drawings, shop drawings or signs—in fact any sheet subject to wear and tear. The PRAKMA machine through the simple turning of a crank, automatically places lasting and efficient protection on all edges. From the roll of stout adhesive tape material shown in the illustration, it takes the tape combining it with a double strength linen thread. This thread is specially prepared and is of the finest quality—even with the severest handling any tracing receives, it will never tear.

●

Prakma

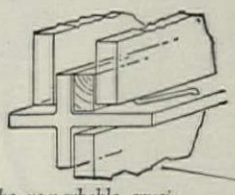
arest Dietzgen brar·

GED TRA·

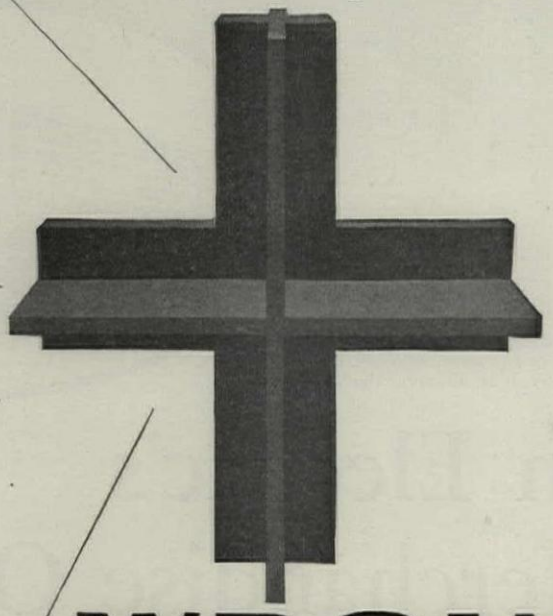


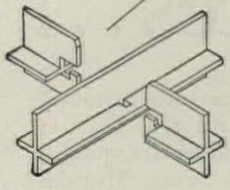
A triumph in pivot design.

Mark well these outstanding and exclusive facts regarding the one and only sash fabricated of genuine wrought iron. Sash, for the first time, replete with special advantages of design overcoming all faults common to metal sash as previously known. Achieved through the employment of the remarkable structural possibilities presented by the Mesker cruciform rolled bar in a metal having as an historical characteristic exceptional resistance to the corrosive factors commonly present where extra heavy duty sash is required. An especially vital point—the pivot—is here done in white brass and malleable iron in cup style. Freedom from weaving—smooth, positive hinge action during the life of the building!



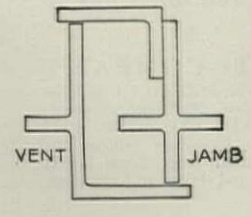
The remarkable cruciform bar permits inside, outside or double glazing.





All joints are made mechanically true and fast then electrically welded.

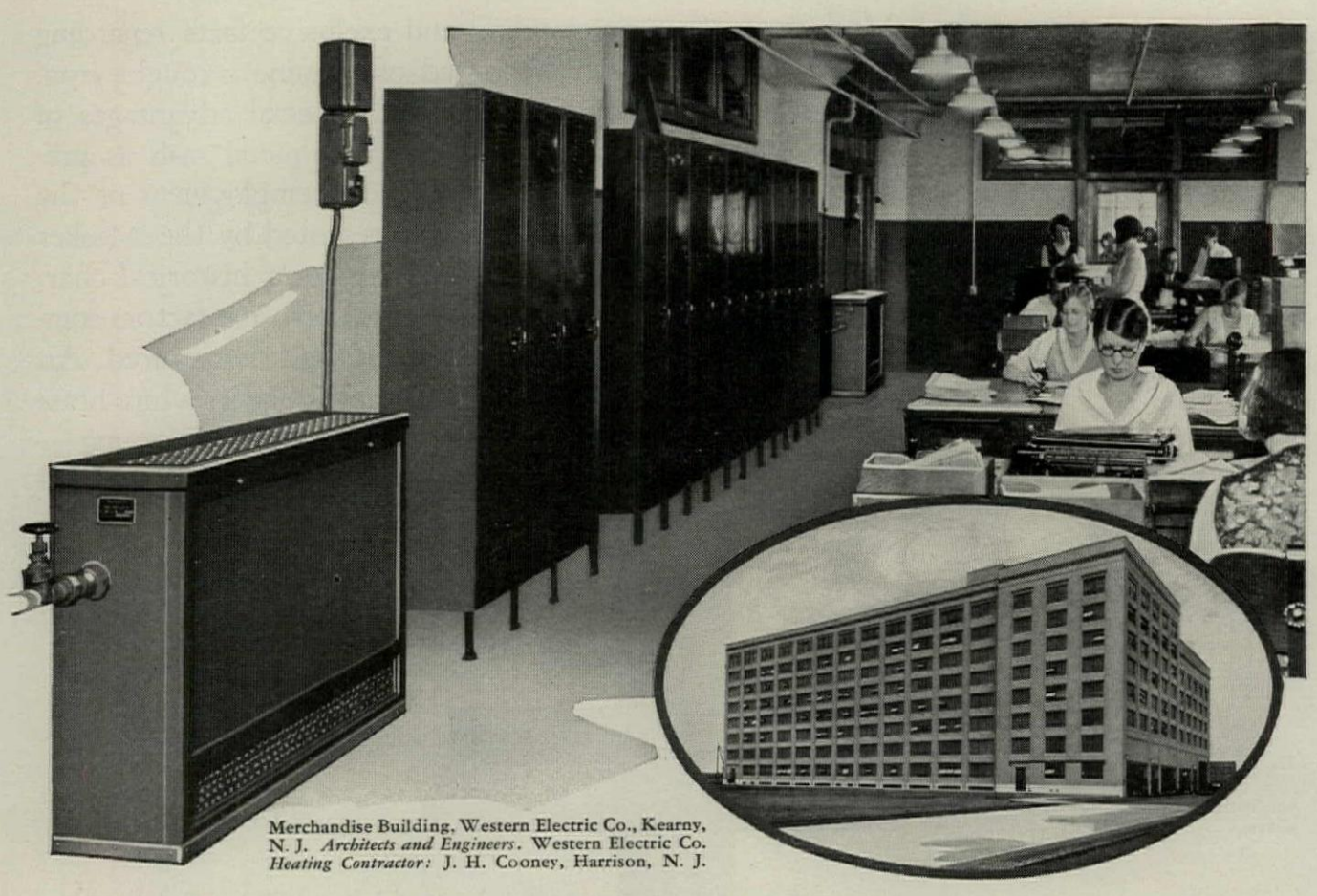
WROUGHT IRON SASH



Unique all-around double contact jamb section.

Mesker

MESKER BROS. IRON CO., ST. LOUIS, MO.
Wrought Iron Window Sash Originators



Merchandise Building, Western Electric Co., Kearny, N. J. *Architects and Engineers*. Western Electric Co. *Heating Contractor:* J. H. Cooney, Harrison, N. J.

Western Electric's Merchandise Offices...

heated by 21 Sturtevant Unit Heater-Ventilators

In the average unit heater-ventilator installation, heating is incidental to the primary ventilating function of the equipment. Consequently the advantages of using these units *solely* as recirculating heaters are often overlooked. These advantages are quick, uniform heating . . . close control of temperature . . . economy in operation.

A typical instance of efficient heating by recirculation is provided by the 21 Sturtevant Unit Heater-Ventilators in Western Electric's Merchandise Building at Kearny, N. J.

Since this equipment mechanically circulates the heated air, the offices are evenly heated throughout. There are no hot or cold spots. Desired room temperature is maintained by automatic control. Sturtevant Unit Heater Ventilators heat more quickly than direct radiation . . . and give 6 to 10 times more heat So the offices are quickly heated in the mornings . . . even Monday mornings! No need to keep heat up overnight or over the weekend. Sturtevant Unit Heater-Ventilators are adapted either to hot water heating . . . which is the system used in this building . . . or to steam. In the latter case, there is usually a worthwhile saving in steam, over direct radiation. The units are quiet and unobtrusive . . . both in operation and appearance.

Sturtevant Unit Heater-Ventilators are adapted to infinite installations . . . schools, stores, hotels, institutions and other places. Have you Catalog 361?

B. F. STURTEVANT COMPANY
Main Offices: HYDE PARK, BOSTON, MASSACHUSETTS: CHICAGO, ILLINOIS, 410 No. Michigan Avenue; SAN FRANCISCO, CALIFORNIA, 681 Market Street
Branch Offices in Principal Cities: Canadian Offices at: Toronto, Montrea and Galt. Canadian Rep.: Kipp Kelly, Ltd., Winnipeg. Agents in Principal Foreign Countries.

Sturtevant Unit Heater-Ventilator
Reg. U. S. Pat. Off.
SUPPLIES OUTDOOR AIR FILTERED CLEAN AND TEMPERED

ORIGINALITY —*in a medium that encourages* ORIGINALITY

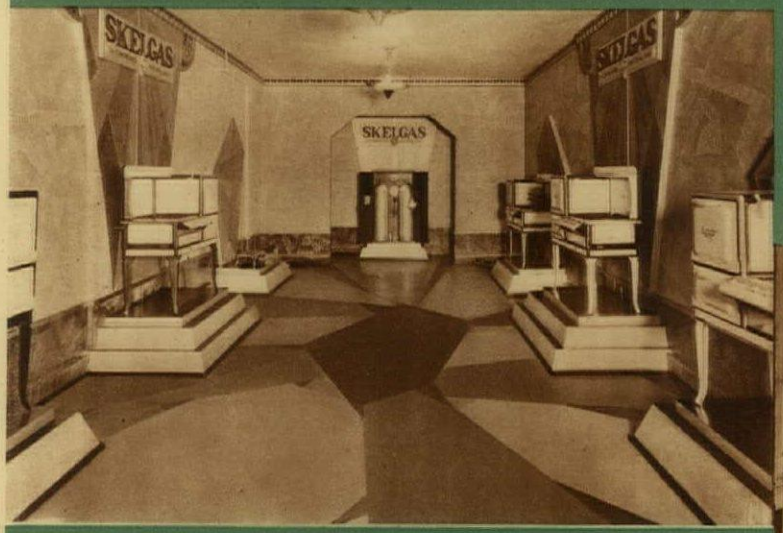
The adaptability of Sealex materials to interior decoration is well illustrated by this office reception room of the Walker Gordon Milk Co., New York City. That the unique Sealex floor was designed-to-order is unmistakable.

We think there is something at once challenging and inspiring about these pictures. You can't look at them for long without wanting to reach for a pencil and sketching paper. You feel an itch to try your hand at designing a floor or two of your own.

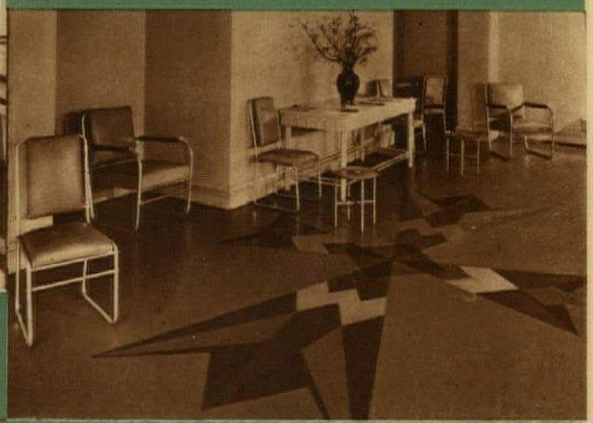
All right, go ahead. The only thing to remember is that *there are no rules.* No blue-laws. No inhibitions.

Because you are working in the world's most "workable" floor material. A sharp linoleum knife in the hands of a skilled mechanic can make *Sealex* Linoleum or *Sealex* Treadlite Tile as-

(Continued on following page)

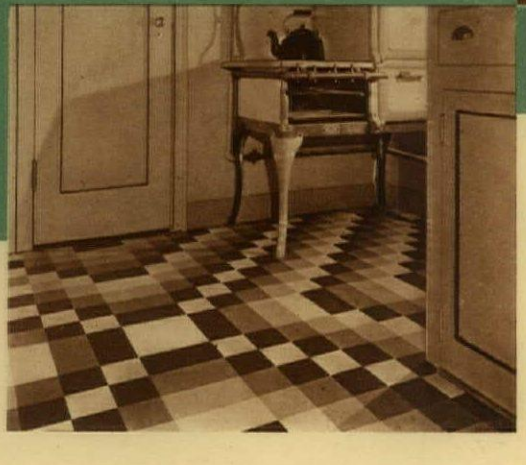


Modernistic floor of Sealex Linoleum above is carried out in Black, Dark Gray, Light Gray, Terra Cotta, and Green. A standard design for the chain of showrooms of the Skel-Gas Co.



An illustration of the effective use of a cut-to-order inset. Judicial placement of insets makes a pleasant departure from monotony.

Unusual kitchen floor design in Sealex Treadlite Tiles of several colors:—Mahogany Brown, Craft Brown, Fawn Gray and Colonial Buff.



BONDED FLOORS

Materials for Bonded Floors are manufactured by Congoleum-Nairn Inc.

(*Continued from preceding page*)

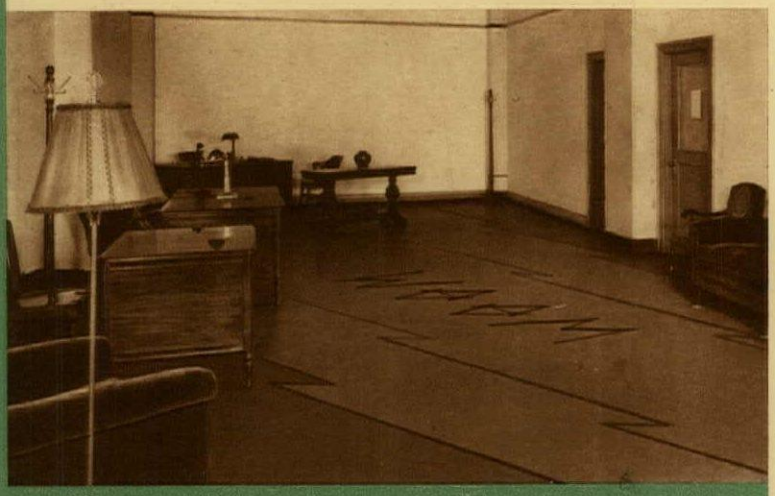
sume almost any two-dimensional form your mind can conceive.

So reach for that pencil and paper. The sky's the limit. Plan a modernistic floor for a smart shop. An office floor with the firm's trade-mark as part of the design. A formal "period floor" for a public building. A living room floor with the owner's hobby symbolized in the floor design.

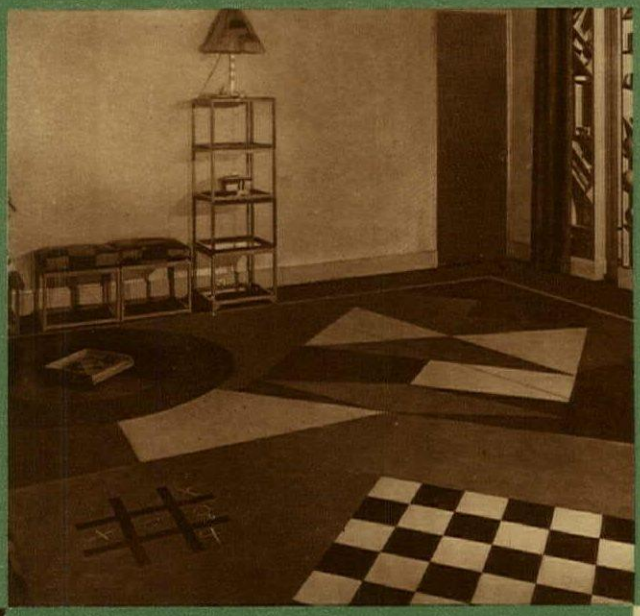
And when the time comes to carry out your conceptions, call in an Authorized Contractor of Bonded Floors. Those firms, as you can see by these pictures, have had specialized experience in this type of work. And their standards of workmanship are so high that we are able to back their floors with Guaranty Bonds against repair expense!

CONGOLEUM-NAIRN INC., *General Office:* KEARNY, N. J.

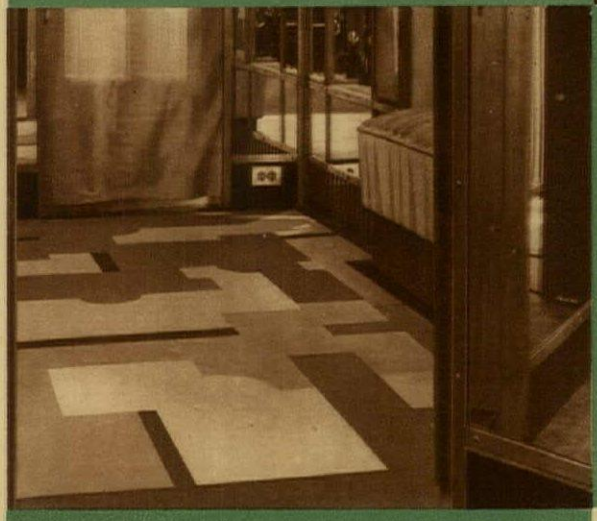
BONDED FLOORS



Floor design reflecting the character of a business. Reception room of Radio Station WAAM, Newark, N. J. Letters WAAM were cut from Sealex Linoleum and inset into the floor.



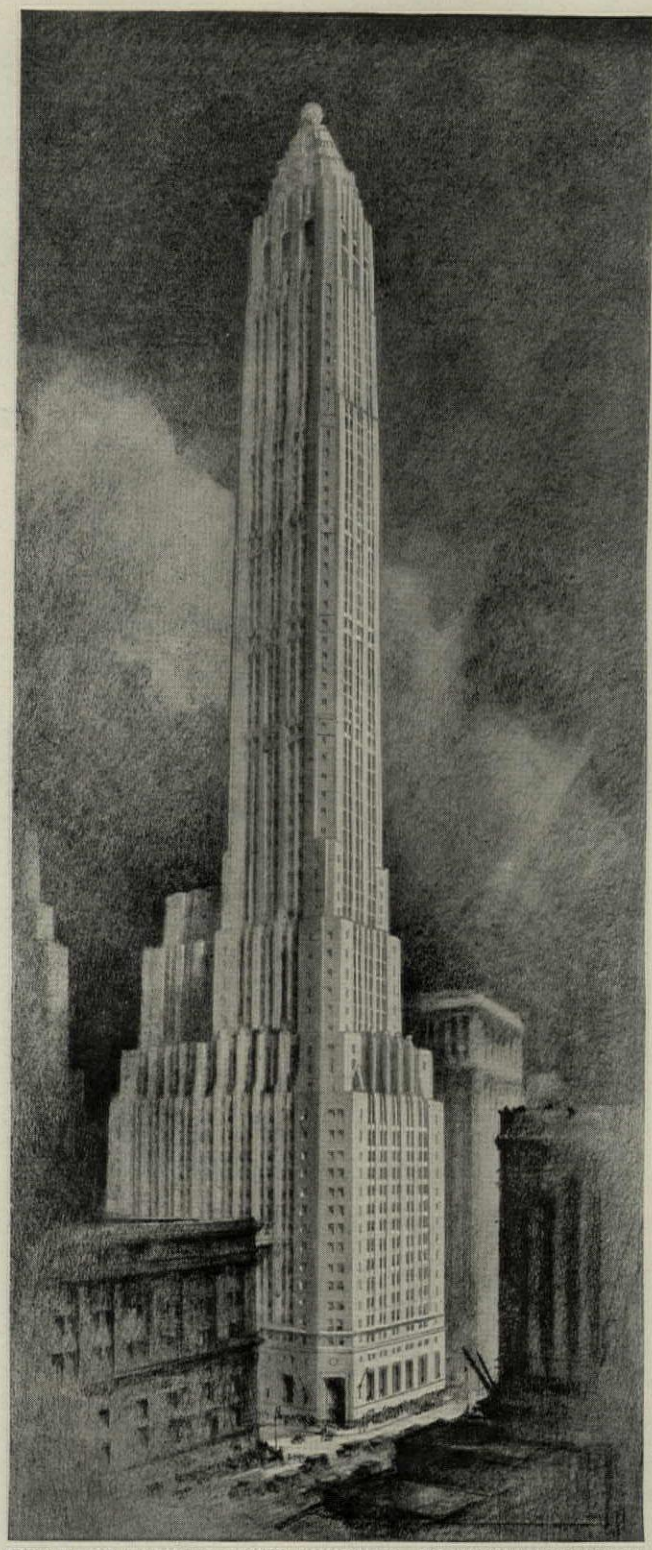
An unusual type of game-board and floor combined, illustrating the versatility of Sealex flooring materials from a design standpoint.



A modernistic dressing room floor in a custom-made design, cut-to-order from several colors of Sealex Treadlite Tile.

If, rather than prepare floor designs in your own office, you wish suggestions submitted to you, an Authorized Contractor of Bonded Floors will place his and our services at your disposal. Call upon us for estimates, specifications, samples or designs. No obligation, of course . . . . . .

SEALEX LINOLEUM



CITY BANK FARMERS TRUST BUILDING, 20 EXCHANGE PLACE
NATIONAL CITY REALTY CORPORATION, *Owners*
Architects: CROSS & CROSS · *Builders:* GEORGE A. FULLER CO.

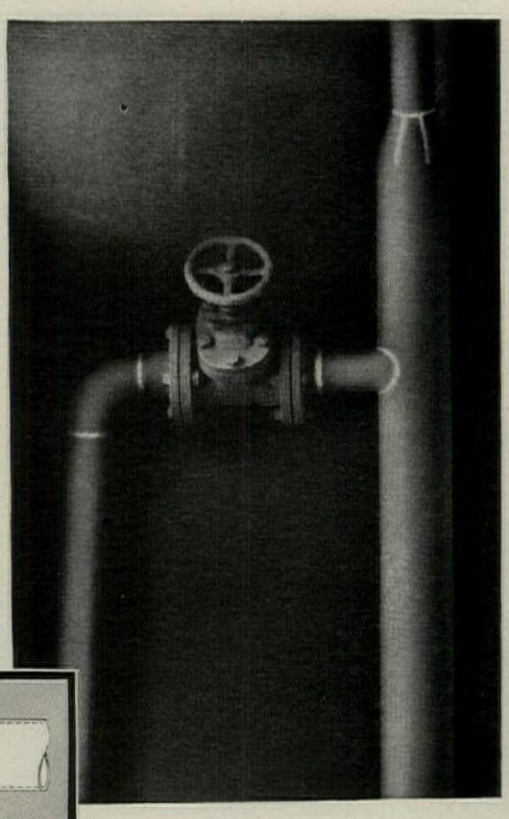
CITY BANK
FARMERS TRUST BUILDING
NEW YORK

THE elevators in this sixty-story bank and office building are equipped to travel at the high speed of 1200 feet a minute. The Elevator Entrances, by Dahlstrom, all electrically operated, provide the precision required to harmonize with this high speed.

Elevator Entrances by

DAHLSTROM

THE DAHLSTROM METALLIC DOOR COMPANY, *{Established 1904}* JAMESTOWN, NEW YORK
WITH OFFICES AND REPRESENTATIVES IN PRINCIPAL CITIES



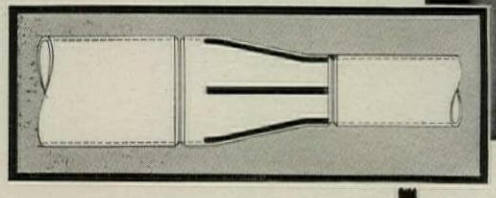
Oxwelding Reduces Radiation Losses

DESIGN STANDARDS FOR OXWELDED PIPING

Any welded piping system, even in its most complicated form, is a combination of a few fundamental welding design details.

SWAGES OR REDUCERS

Explanation of Design:
Formed or fabricated swages, both concentric and eccentric, to meet any condition, may be formed as illustrated on page 31, "Design Standards for Oxwelded Piping."



Uses:
Swages or reducers, either formed or fabricated, are recommended for all sizes, pressures and services for replacing cast swages.

Specification:
When welded swages or reducers are specified the following features should be included in the specification:

1. Templets shall be used for making cuts.
2. Cuts shall be carefully beveled and accurately matched in order to form a good vee for welding.
3. Welds shall be built up to present a gradual increase in thickness from the edge to the center.
4. Thickness at the center of the weld shall not be less than 1¼ times the pipe wall thickness.
5. The weld shall be of sound metal free from laps, gas pockets, slag inclusions or other defects.

The above is excerpted from a handbook on fundamental designs, titled, "Design Standards for Oxwelded Steel and Wrought Iron Piping," published by The Linde Air Products Company. A copy of this handbook should be in every architectural drafting room. It is yours for the asking. Just fill in and mail the coupon.

Technical Publicity Dept., 12th Floor
205 East 42nd St., New York, N. Y.

Please send me a copy of your new book, "Design Standards for Oxwelded Steel and Wrought Iron Piping," which also explains procedure control for pipe welding

Name .....

Company ..... *Position* .....

Street Address .....

City ..... *State* .....

P.P.-11-30

BECAUSE of minimized radiation surfaces, radiation losses from a welded pipe line, whether covered or not, are less than from a screwed or flanged line.

In addition to this, oxwelded construction permits more efficient insulation and consequent higher operating efficiency. It enables continuity of insulation, impossible where other means of pipe jointing are used. There is also the further advantage that the insulation, once applied, will not be ruined through leakage and will not have to be removed at the joints for tightening gaskets or repairing leaks.

Under Procedure Control, welded piping construction may be undertaken with the same confidence in a satisfactory result as older methods, and with further assurance of increased economy and serviceability.

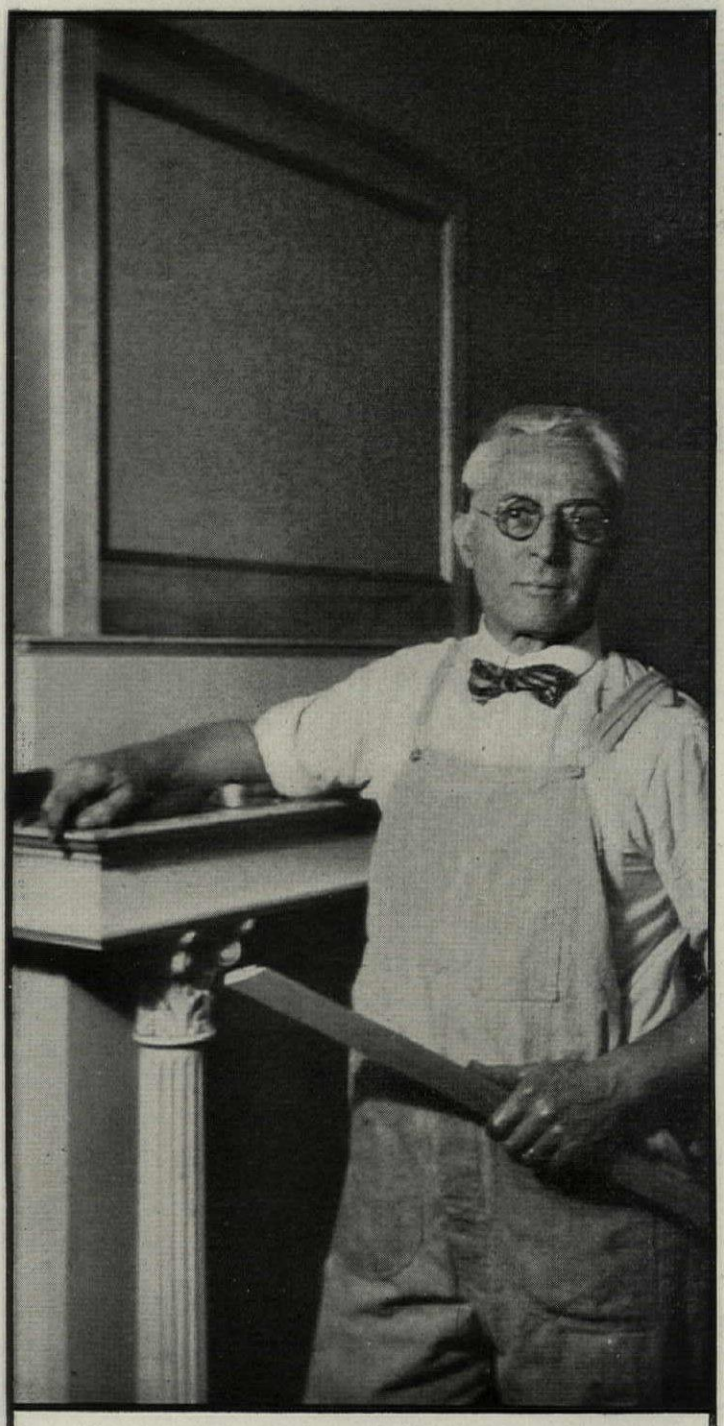
THE LINDE AIR PRODUCTS COMPANY . . . THE PREST-O-LITE COMPANY, INC. . . . OXWELD ACETYLENE COMPANY, UNION CARBIDE SALES COMPANY . . . UNITS OF

UNION CARBIDE AND CARBON CORPORATION

General Offices . . . . . New York UCC Sales Offices . . . In Principal Cities

PONDOSA AFFORDS REAL PROTECTION

AGAINST THE EXTREMES OF WARMTH AND COLD



"I've always claimed that people an' wood have lots in common. Take this piece of Pondosa. Smooth, straight and well seasoned. Lot o' folks like that. That's what I like about this lumber—it wears well—and improves on acquaintance."

—From the philosophy of the boss-carpenter

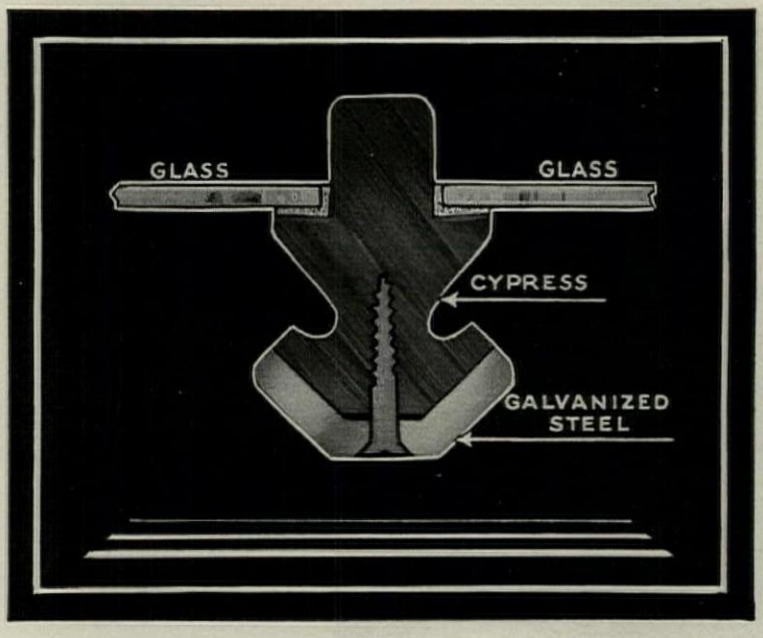
WHETHER the sun is blazing down, or wintry winds storm outside, the home walled with Pondosa Pine stands safely protected. Pondosa Pine is a low density wood, a natural insulator. Pine siding, pine sheathing, and pine lath . . . these three layers . . . with their countless air spaces interspersed within the rigid fibrous structure of the wood . . . serve to retard greatly the passage of heat or cold, and to set up an effective insulating barrier.

In addition to its high insulating qualities, Pondosa is both beautiful and weather resistant. The paint brush goes smoothly over the surface and with fewer coats leaves a lustrous finish free from ripples. That soft and even color will be in evidence for years. And during that time, joints will be tight, cupboard doors work smoothly, and the baseboard cling snugly to the floor. Pondosa builds for permanence.

In short, this light, strong Pondosa is ideal for almost any softwood purpose, inside or outside. Specify Pondosa by the mark of the pine tree, imprinted on the lumber. Most good lumber yards can supply large amounts of Pondosa quickly. Western Pine Manufacturers Association, Portland, Oregon.

Pondosa Pine

THE PICK O' THE PINES



Offering 250 Dollars for a Name

YEARS ago we started using a combination metal and cypress roof bar for supporting the glass in greenhouses and conservatories. For the last three years we have been perfecting it from a structural side, while at the same time making possible many refinements to the framing, giving an added lightness and attractiveness.

Now that the series of tests have abundantly proven the superiority of the bar, we are seeking a suitable name. One that will mean something structurally to architects, while at the same time be short and easy for others to remember.

For such a name we offer outright, 250 dollars. All architects and any draftsmen now in employ of an architect are eligible.

Write at once for full particulars. Offer expires December first. Award made December tenth, in ample time for Christmas use.

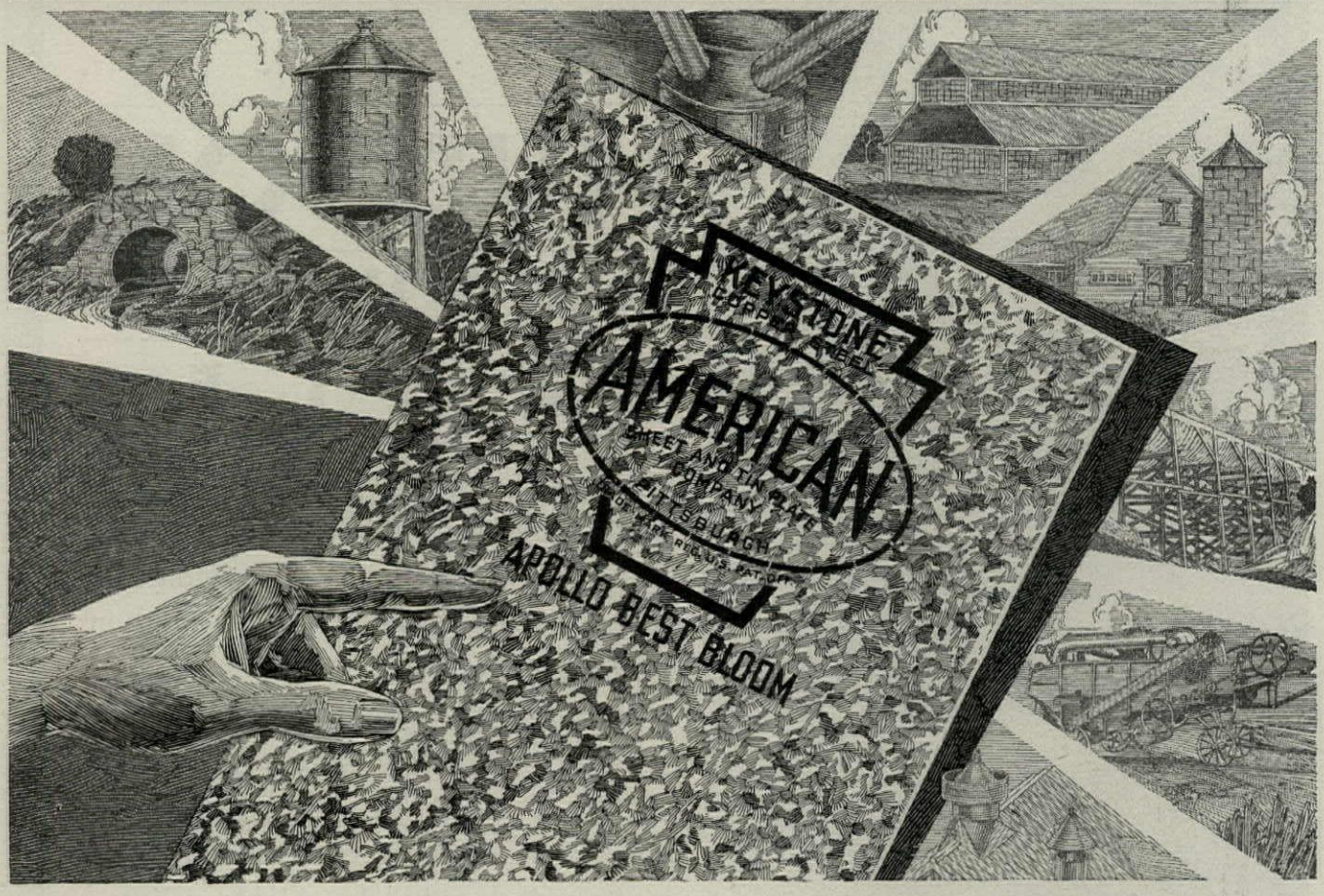
Lord & Burnham Co.

Chicago, Illinois IRVINGTON, N. Y. Toronto, Canada

Offices in Many Other Principal Cities

FOR FOUR GENERATIONS BUILDERS OF GREENHOUSES

AMERICAN



APOLLO-KEYSTONE Galvanized Sheets

EXPERIENCE POINTS TO THE MARK OF EXCELLENCE!

In every field of human endeavor, there is a name that signifies highest excellence. Since 1884 that name has been APOLLO in the field of good Galvanized Sheets. These sheets are well known for their ductility, splendid coating and general excellence. APOLLO Sheets bind together more satisfied sheet metal workers than any other make, and are adapted to all purposes to which zinc coated sheets are suited.

APOLLO-KEYSTONE grade embodies all the high qualities of the Apollo brand, together with a KEYSTONE Copper Steel alloy base, which gives added resistance to rust and corrosion, and insures the maximum degree of satisfactory wear and permanence. This Company manufactures Black and Galvanized Sheets, Automobile Sheets, Special Sheets, Tin and Terne Plates, for all known uses.

American Sheet and Tin Plate Company

General Offices: Frick Building, Pittsburgh, Pa.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES

AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY
CARNEGIE STEEL COMPANY
COLUMBIA STEEL COMPANY
CYCLONE FENCE COMPANY
FEDERAL SHIPB'LDG. & DRY DOCK CO.
ILLINOIS STEEL COMPANY
NATIONAL TUBE COMPANY
THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & RAILROAD CO.
UNIVERSAL ATLAS CEMENT COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Bldg., San Francisco, Calif.

Export Distributors—United States Steel Products Company, 30 Church St., New York, N.Y.

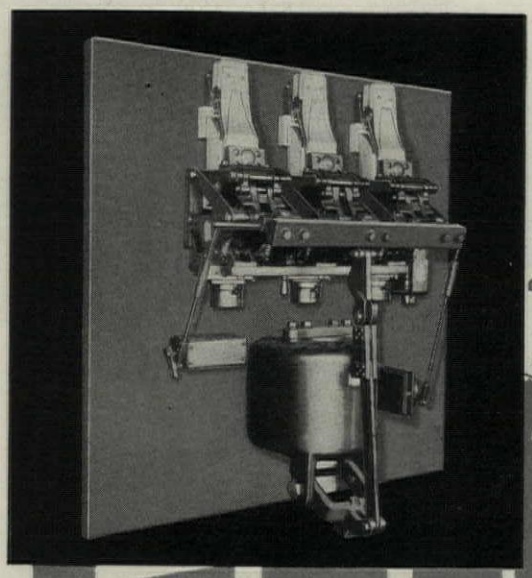
A BREAKER

to meet the need

of

MODERN

SKYSCRAPERS



A three-pole, 4000-ampere, electrically-operated, trip-free, CL Carbon Circuit Breaker for modern skyscrapers

ADEQUATE control of distributed power was a problem of vital importance to architects in constructing modern skyscrapers.

In its solution, Westinghouse high-power laboratories played an important part. Power conditions similar to those met in modern buildings were set up for test purposes which made it possible to foresee breaker requirements to cope with new conditions.

From data thus obtained grew the modern CL carbon circuit breaker—the breaker that is being used so successfully in such structures as the Chicago Civic Opera Building, the Chrysler Building, the Atlantic City Convention Hall and many others.

If your file 31-D-44 does not contain our new circular 1705-B, please request it from our nearest office.

Service, prompt and efficient, by a coast-to-coast chain of well-equipped shops

Westinghouse

WESTINGHOUSE ELECTRIC

T 31206

TUNE IN THE WESTINGHOUSE SALUTE OVER THE N. B. C. NATION-WIDE NETWORK EVERY TUESDAY AT 10:00 P. M., E. S. T.

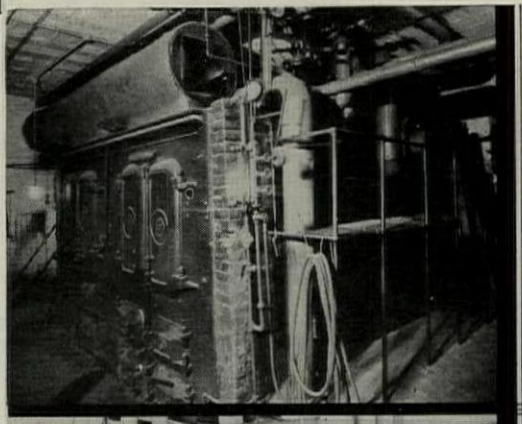
IDEAL BOILERS ★ SAVED THIS SCHOOL $630 IN FUEL THE FIRST SEASON

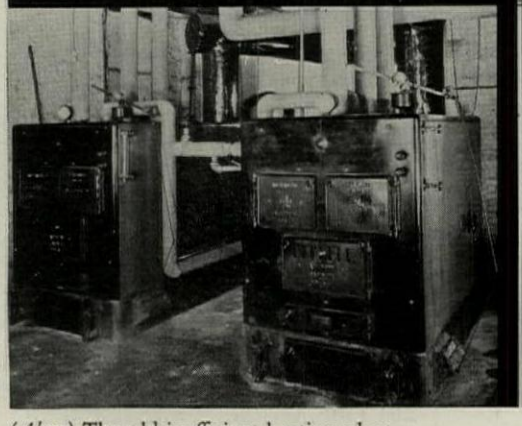
ENDION SCHOOL
DULUTH, MINN.

In July 1929 the Board of Education in Duluth decided to improve the heating system in this school. Two Ideal Redflash Smokeless Boilers were installed. During the previous season 207 tons of coal were consumed. Last season only 102 tons were used. The saving in fuel amounted to $630 with the same janitor firing the boilers that had done the work previously.

And though the temperature in that northern city is extremely severe the students were warm and comfortable—always.

This is just another example of the way Ideal Boilers are saving money and bringing healthful warmth to buildings of every size in every part of the country.





(*Above*) The old inefficient heating plant.

(*Below*) The new money-saving Ideal Boilers.

Our Time Payment Plan makes it possible for owners to modernize now and pay later. A little down and a little each month.

AMERICAN RADIATOR COMPANY

DIVISION OF

AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

40 WEST 40th STREET, NEW YORK

QUIET . . . . *please!*

NOISE MUST GO! Modern business demands quiet . . . freedom from the mental fatigue and frayed nerves caused by the clamor and din that drift in from the street or arise within the office itself.

Owners and architects who install acoustical treatment *before* tenants move in find themselves ahead of the game. For occupants are sure to demand sound absorption later on, and quiet offices rent more easily.

Acoustex is an efficient sound absorbent . . . and more! Sanitary, easily cleaned, fire-proof, Acoustex makes modern, attractive, colorful walls and ceilings . . . a welcome addition to any office. And its pleasing textured surface never tires the eye.

HOUSING COMPANY—ACOUSTICAL DIVISION
40 CENTRAL STREET, BOSTON, MASS.

Acoustex erectors are located in principal cities . . . Ask for specifications and details on the use and application of Acoustex . . . or write us direct.

ACOUSTEX

The *Decorative* Sound Absorbent

ACOUSTEX offers you . . .

An acoustic material which is a finish beautiful in itself . . . tinted to your specifications . . . unusually high coefficient of sound absorption . . . easily vacuum cleaned and redecorated . . . made of incombustible wood fibre . . . tested through years of successful installations . . . furnished in tiles from 6″ x 12″ to 12″ x 24″ and large sheets two feet wide and up to eight feet in length . . . three thicknesses available to meet all absorption requirements:

ACOUSTEX 60, 1″ thick ACOUSTEX 70, 1½″ thick
ACOUSTEX 80, 2″ thick

A NEW CATALOG FOR YOUR FILES

Contains specifications, details, and representative installations of Acoustex indicating flexibility of use and design. Sent on request . . . use coupon.

HOUSING CO., Acoustical Division
40 Central St., Boston, Mass.

Please send a copy of "Quiet . . . please," the new Acoustex book, for our acoustics files. P-11

Name.....

Address.....

.....

PIERPONT & W. S. DAVIS, ARCHITECTS, LOS ANGELES

THERE IS AN INTERESTING IRREGULARITY TO A MONOLITHIC SURFACE WHEN THE CONCRETE IS UNTOUCHED AFTER THE FORMS ARE REMOVED

Concrete builds the complete structure

Because it can be moulded at will, concrete provides a building material that meets nearly every architectural and structural requirement. In fact, it considerably *extends* the architectural possibilities. It combines the richness of hand-tooling with the speed and economy of reproduction from models, permitting decorative motifs which might otherwise be prohibitive in cost.

Consequently, a new era in building decoration—both interior and exterior—is being introduced. Concrete has the enduring characteristics of stone. It can be finished in any color and texture desired.

Portland cement, and the other ingredients which go to make concrete, are readily available in any part of the country. Rapid construction is possible, hence time and labor costs are often lower than with other building materials. The economy—plus the *firesafety* which concrete affords—is rapidly establishing concrete as the complete building material.

PORTLAND CEMENT *Association*

Concrete for permanence and firesafety

33 WEST GRAND AVENUE
CHICAGO

The CHICAGO STUDEBAKER SALES BUILDING

The Chicago Studebaker Sales Building, Chicago, Illinois. Loewenberg and Loewenberg, Architects

A REPRESENTATIVE CRITTALL INSTALLATION

AN INTERESTING example of the adaptability of Crittall Casements to commercial buildings and shops is furnished by the Chicago Studebaker Sales Building.

To this type of architecture they bring many advantages. They permit the openings to be used for light, display and ventilation. And in addition they provide beauty that contributes much to the effectiveness of the design.

Crittall Casements are offered in three complete and separate lines. Stanwin and Norman Casements are available in a wide variety of standardized sizes—Universal Casements are custom-built in steel or bronze to the architect's own specifications. The world's largest manufacturer of metal casements—with factories all over the globe—Crittall can furnish windows for every type of construction.

See our complete catalog in Sweet's—pages A1131 to A1200—for complete details and specifications of all windows in the Crittall line.

CRITTALL CASEMENT WINDOW COMPANY
10959 Hern Avenue • • Detroit, Michigan

STANWIN CASEMENTS • NORMAN CASEMENTS • UNIVERSAL CASEMENTS

CRITTALL CASEMENTS

NO LONGER CAN THE SCIENTIST SAY THAT THE SHORTER ULTRA-VIOLET RAYS ARE ENTIRELY SHUT OUT BY ALL WINDOW GLASS

LUSTRAGLASS
FLAT-DRAWN

Transmits Ultra-Violet Rays and more daylight too . . . Yet Costs No More

PROMINENT architects from coast to coast are recommending LUSTRAGLASS to their clients. In addition to unexcelled quality, it offers three additional features found in no other glass for windows and all this at no extra cost.

(1) LUSTRAGLASS transmits ultra-violet sun rays (2) LUSTRAGLASS transmits more daylight (3) LUSTRAGLASS is the "whitest" of all glass made for windows—a clearer, flatter, better window glass, obviously superior in every respect. It should be used in homes, hospitals, schools, factories, greenhouses, office and apartment buildings.

You cannot specify a better glass than this amazing new product of the American Window Glass Company.

Your local jobber or dealer will gladly cooperate with you in submitting estimates on LUSTRAGLASS.

Write for LUSTRAGLASS BOOKLET—A-430 and 1930 SPECIFICATION SHEET. They will be interesting to both yourself and your clients.

Look for this label on every light of genuine Lustraglass.

IT COSTS NO MORE

AMERICAN · WINDOW · GLASS · CO.

Farmers Bank Bldg. *Also Makers of Armor-Lite Scatter-Proof and Bullet-Proof Glass, Tintaglass, Picture Glass, Photographic Dry Plate Glass, 3/16" and 7/32" Crystal Sheet, Ground and Chipped Glass, Improved Quartz-Lite and Bulb Edge Glass.* **Pittsburgh, Penna.**

3060

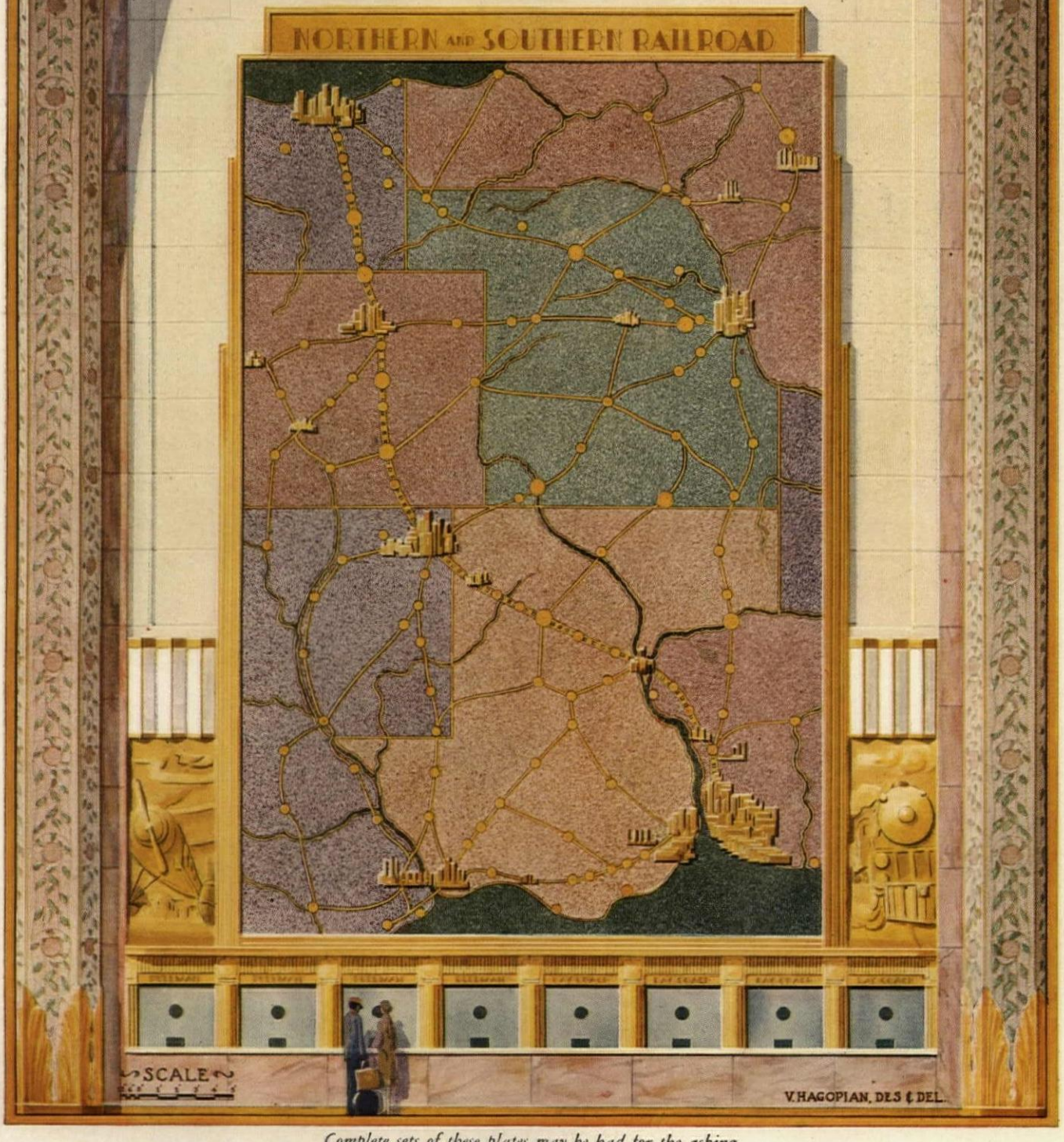
ANACONDA

ARCHITECTURAL EXTRUDED BRONZE AND TERRAZZO STRIPS

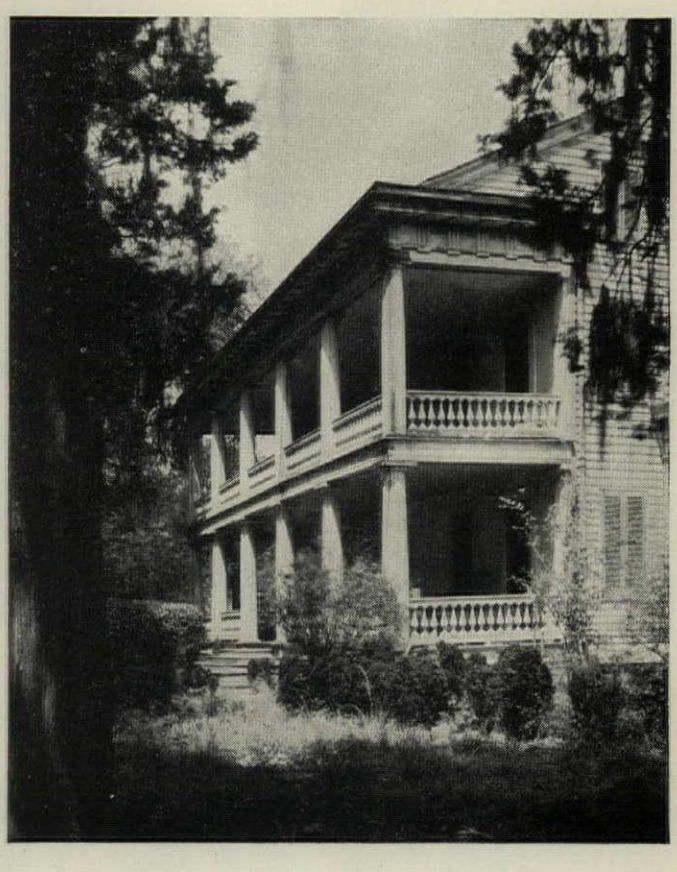
PLATE 26

SUGGESTION FOR TERRAZZO WALL MAP, INCORPORATING BRASS DIVIDING STRIPS IN THE DESIGN. CITIES SHOWN BY CAST BRONZE PLAQUES. COLUMNS AND TICKET WINDOWS ARE OF ANACONDA EXTRUDED BRONZE STANDARD SHAPES.

THE AMERICAN BRASS COMPANY
GENERAL OFFICES · WATERBURY, CONNECTICUT



Complete sets of these plates may be had for the asking



An old-timer of the Old South. The Tidewater Red Cypress on this plantation dwelling in Southern Louisiana has served well over one hundred years. Photograph by Tebbs & Knell.

One century is too short to test the endurance of *Cypress*

HUNDREDS of Early American houses, built of Tidewater Red Cypress (Coast Type) before the Revolution, are still in sound and serviceable condition.

Their successful battles against 150 . . . 200 years of attacking weather testify to the great endurance of this rugged lumber.

As an ever-increasing number of home-owners recognize the long-run economy in such durability, architects are enabled to increase continually their specifications of Tidewater Red Cypress.

Architects have long favored the Wood Eternal, especially for exterior use—not only because of its lasting qualities, but also because of its easy workability, even surface, and tight coherence with paint.

For an exquisite interior

Many prominent architects are using large quantities of Tidewater Red Cypress to achieve beautiful interior finishes, for its exquisite grain enhances the beauty of any room.

Illustrations of their work have been compiled in "A Book of Interiors" to show you the different ways the Wood Eternal can be used to attain delightful effects.

For your complimentary copy write to the Southern Cypress Manufacturers' Association, Jacksonville, Florida.

If your dealer is not stocked with Tidewater Red Cypress, he can get it for you quickly—or you can write direct to any of the Association Mills listed below.

The Tidewater Red Cypress on this charming residence in Montclair, N. J., should still be young and repair-free one hundred years from now. Arthur T. Remick of New York was the architect.

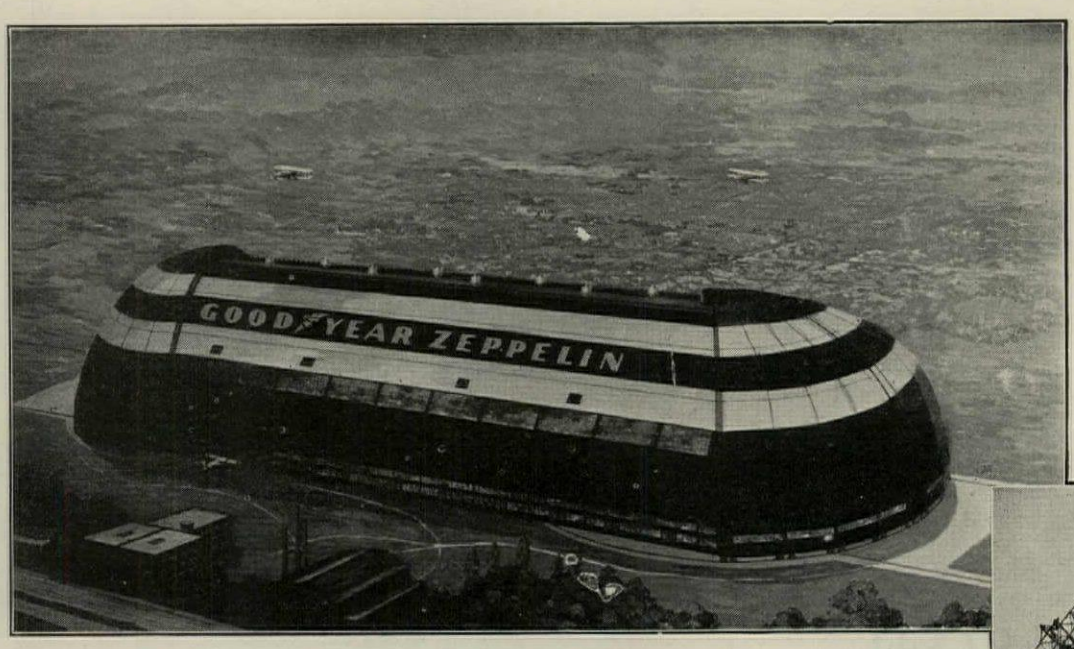
TIDEWATER RED CYPRESS

(COAST TYPE)

THE WOOD ETERNAL

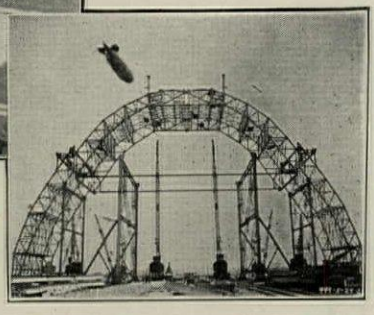
This advertisement is published by the following members of the Southern Cypress Manufacturers' Association, Jacksonville, Fla.:

J. Ray Arnold Cypress Co., Groveland, Fla.
Big Salkehatchie Cypress Co., Varnville, S. C.
Burton-Swartz Cypress Co., Perry, Fla.
Cummer Cypress Co., Jacksonville, Fla.
Dibert, Stark & Brown Cypress Co., Donner, La.
Everglade Cypress Co., Loughman, Fla.
Putnam Lumber Co., Glenwood, Fla.
Putnam Lumber Co., Shamrock, Fla.
Reynolds Bros. Lumber Co., Albany, Ga.
Reynolds & Manley Lumber Co., Savannah, Ga.
Weaver-Loughridge Lumber Co., Boyd, Fla.
Weis-Patterson Lumber Co., Pensacola, Fla.
A. Wilbert's Sons Lbr. & Shgl. Co., Plaquemine, La.
Wilson Cypress Co., Palatka, Fla.



Goodyear-Zeppelin Corporation Airship Factory and Dock, Akron, Ohio.

WILBUR WATSON *and* ASSOCIATES
Architects and Engineers



MacArthur Compressed Concrete Piles used for this outstanding structure

. . . because of demonstrated merit

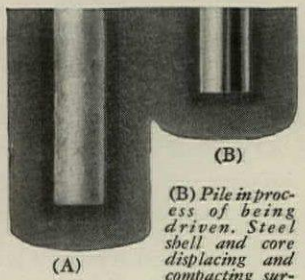
THE importance of the Goodyear-Zeppelin Corporation Airship Factory and Dock at Akron, from the standpoint of its purpose, and also because of its unique structural design, made it imperative that every bit of equipment used be selected on the basis of demonstrated merit.

Important companies in the United States and Canada know that the MacArthur Method not only produces perfect piles on 2 ft. 6 in. centers, but that the compression of the "dry" concrete (just sufficient water to hydrate) gives each pile extra load-bearing value.

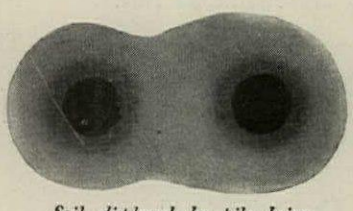
The drawings to the left show relative degrees of compression and demonstrate that the flow of the soil is away from the completed pile.

MacArthur Corporation will welcome the opportunity of presenting pertinent facts regarding their Method and their nation-wide accomplishments to any architect or engineer who is considering a project in which piles may be required.

(A) *Completed pile, formed by compressing a workable, dry mix concrete under 7 tons pressure. This forces dense concrete into intimate contact with surrounding soil, giving maximum skin friction. Shading shows relative compression of soil due to driving and compressing.*



(B) *Pile in process of being driven. Steel shell and core displacing and compacting surrounding soil.*



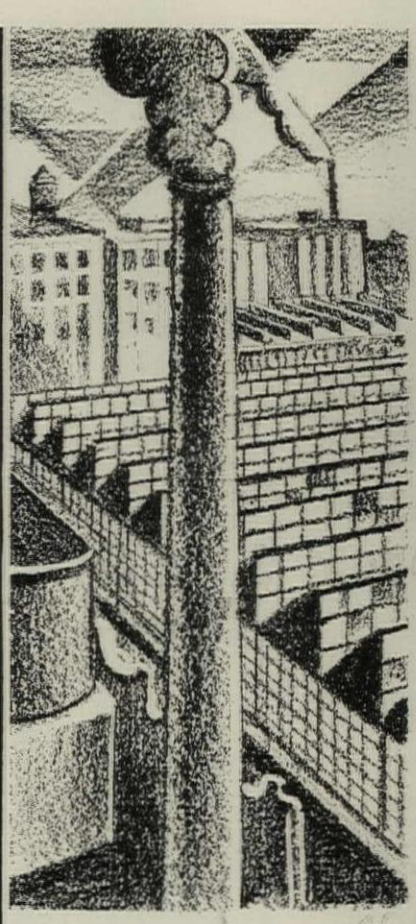
Soil displaced by pile being driven follows line of least resistance which is AWAY *from the densely compacted soil surrounding the finished pile.*

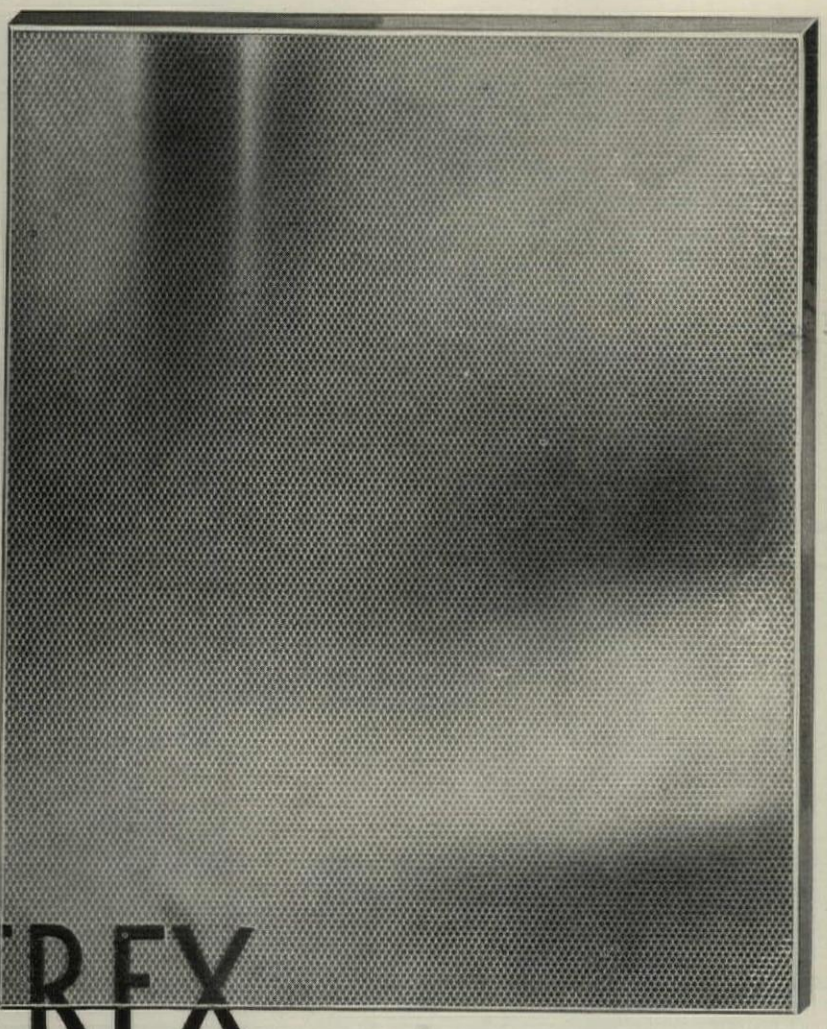
General Offices: 19 West 44th Street, New York

Branches: Chicago, New Orleans, Boston, Pittsburgh, Detroit, Philadelphia, Cleveland, San Francisco

Canadian MacArthur Concrete Pile Co., Ltd., Montreal

MacARTHUR
CONCRETE PILE CORPORATION





INDUSTREX

A BLUE RIDGE PATTERN

ADEQUATE LIGHT

without glare and ease of cleaning are the two major industrial glazing problems which INDUSTREX is designed to solve. Small lenses, compactly arranged, provide uniform refraction of light. They form a comparatively smooth surface that does not accumulate dirt rapidly and can be cleaned with comparative ease.

BLUE RIDGE GLASS CORPORATION

KINGSPORT TENNESSEE

NEW YORK . . . 1 Madison Avenue • CHICAGO . . . 55 E. Washington Street

Pacific Slope Agents . . . . GOODMAN & PAIGE . . . . 1490-1494 Mission Street, San Francisco, California

Cheney Flashing Installed in Parapet Wall—Note Keys Ready for Mortar to Form "The Unbreakable Key Bond"

THERE IS NO SUBSTITUTE—NO IMITATION —AT ANY PRICE—FOR THIS READY-TO-USE, ECONOMICAL THRU-WALL FLASHING

CHENEY

INTERLOCKING THRU-WALL FLASHING

prevents seepage, leaks and efflorescence

"Does Not Break The Bond"

Cheney Flashing is Economical. It comes to the job Ready-to-use, and is built into the mortar bed as the masonry progresses without fitting, soldering or loss of time.

It is the only Ready-to-use Thru-wall copper Flashing made. It runs completely thru the masonry wall and forms a positive unbreakable key-bond in every direction within the mortar bed.

"It does not break the bond," because it is keyed both horizontally and vertically on both sides of each strip. The ends of the strips hook together to form a continuous course.

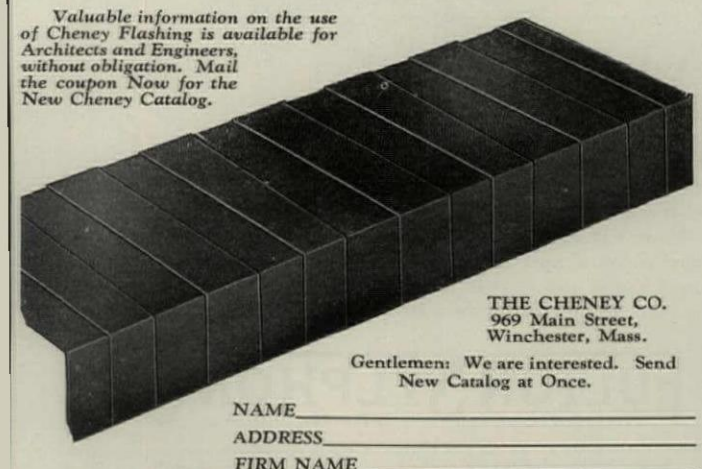
Cheney Flashing scientifically solves the problem of seepage in masonry walls and positively prevents leaks, efflorescence, disintegration of the walls, and the rusting of steel spandrels and lintels from this cause.

The Cheney Company

969 MAIN STREET, WINCHESTER, MASS.

New York Philadelphia Pittsburgh

Valuable information on the use of Cheney Flashing is available for Architects and Engineers, without obligation. Mail the coupon Now for the New Cheney Catalog.



THE CHENEY CO.
969 Main Street,
Winchester, Mass.

Gentlemen: We are interested. Send New Catalog at Once.

NAME_____

ADDRESS_____

FIRM NAME_____

DOES NOT BREAK THE BOND

House in Portland, Ore., Kirtland Cutter, Architect. Cabot's Blended Roof Shakes; Cabot's Old Virginia White on brickwork. Cabot's Quilt in walls to deaden noise and make the house quiet and more livable.

Save Their Money

Now is a moment when an architect can as easily make a friend for life as a foe.

All Cabot's House Building Specialties are planned and manufactured in the true spirit of New England thrift—the thriftiest thrift in the world!

Highest quality materials, simplest and most efficient manufacturing methods; put these two things together, mark the finished product at a fair and reasonable price, hold the goodwill of the customer by supplying service at all times—and you have a formula for business success that has kept Samuel Cabot, Inc., alive and growing for generations.

You save your client's money when you deal with such a firm; and every satisfied client can bring you a dozen more.

Cabot's Quilt

Clip the Coupon below, or write to

Samuel Cabot Inc

141 MILK STREET, BOSTON, MASS.

Gentlemen: Please send me your new Building Specialties Handbook.

Name .....

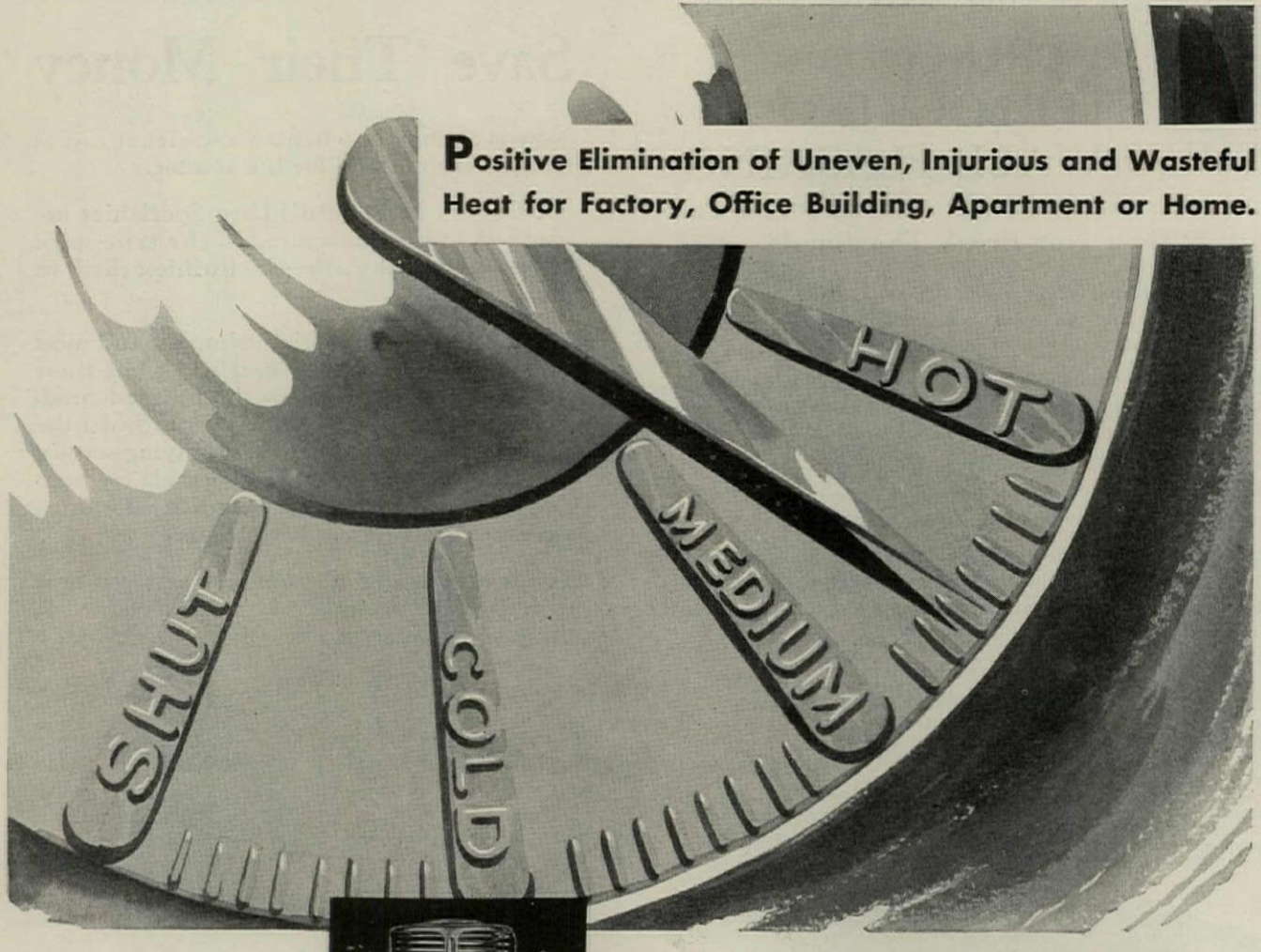
Address P.P.11-30

SOLVED BY Sylphon TRADE MARK

In perfecting the Sylphon Automatic Radiator Valve, Sylphon Engineers have filled one of the world's "biggest orders." They have produced a combination packless valve and temperature control unit which eliminates all individual radiator attention. Actuated by the famous Sylphon Bellows it functions accurately, has no electrical or mechanical accessories to get out of order, is simple to install and inexpensive to buy.

By the avoidance of wasteful heating, it accomplishes remarkable fuel economies. **Once installed, the Sylphon Automatic Radiator Valve requires no attention other than to set the "marked" thermostatic head to one of the desired points "Hot," "Medium," "Cold," or "Shut." Fluctuating temperatures are impossible. One room may be "Hot," one "Medium," one "Cool" to suit the occupants—a feature impossible with former methods of control.**

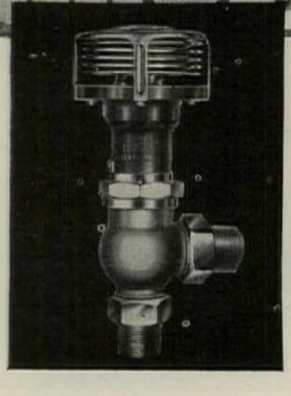
Positive Elimination of Uneven, Injurious and Wasteful Heat for Factory, Office Building, Apartment or Home.



Send for Descriptive Bulletin

▼

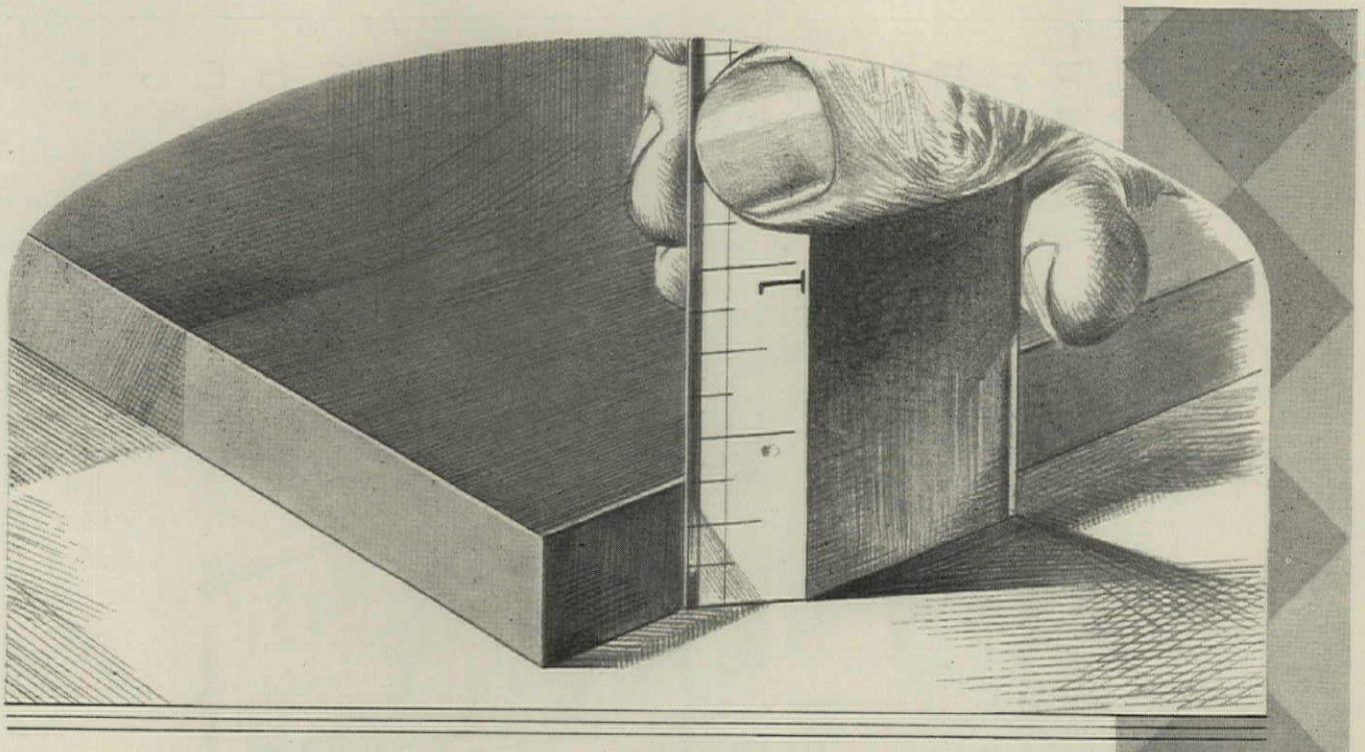
This complete, controlling device, a new Sylphon triumph, is fully described (both types, the angle and globe valve) in our illustrated printed matter.



Architects and engineers may specify Sylphon Automatic Radiator Valves with all confidence in their lasting efficiency. Home owners and office building or apartment managers should know about this most practical automatic temperature control. Write for free Bulletin VP 250.

« FULTON SYLPHON CO. »
KNOXVILLE, TENN., U.S.A.

Representatives in all Principal Cities in U. S. A.—European Representatives, Crosby Valve and Eng. Co., Ltd., 41-2 Foley St., London, W. 1., Eng. Canadian Representatives, Darling Bros., Ltd., 140 Prince St., Montreal, Que., Canada.



Gauge Flooring as You Do Other Structural Materials

TO SKIMP on thickness is to defeat permanence for much of the success and satisfaction from Rubber Tiling is dependent upon installing a floor of full thickness.

Three-eighths-inch thick Rubber Tiling in addition to possessing a greater wearing surface, has added structural strength, which not only insures a more durable floor but guards against buckling of the tiles.

New York Belting & Packing Company's full thickness Rubber Tiling recommends itself for heavy service. Many floors laid more than twenty years ago are still in excellent condition. This remarkable wearing quality is due to the extraordinary firmness, thickness and weight, making a floor that is practically indestructible.

Lays BEST
Stays BEST

Twelve rich colors may be combined in an endless variety of designs and harmonies which will satisfy the most exacting requirements.

Send for samples and color suggestions

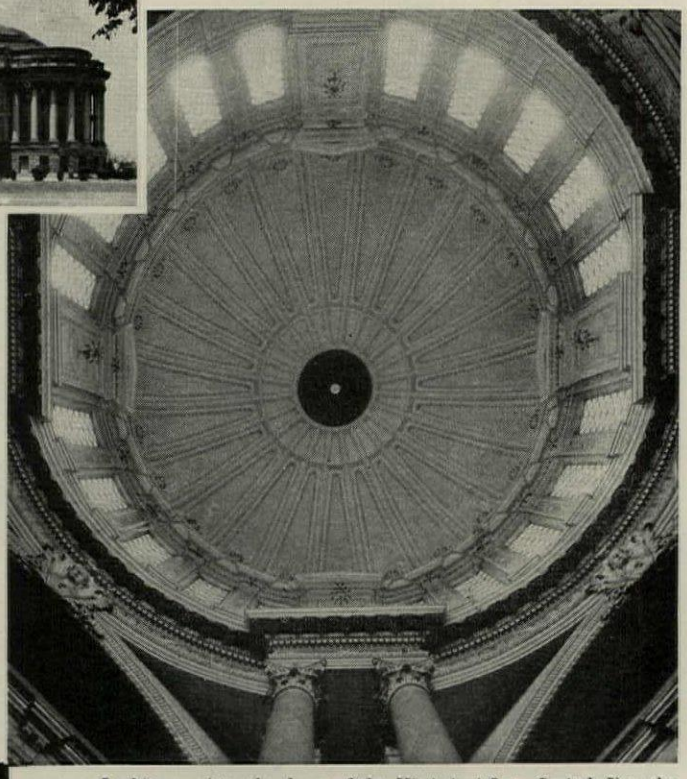
NEW YORK BELTING & PACKING CO.
91-93 Chambers Street, New York
Boston Philadelphia St. Louis Chicago Pittsburgh San Francisco

A PRODUCT OF NEW YORK BELTING & PACKING CO.

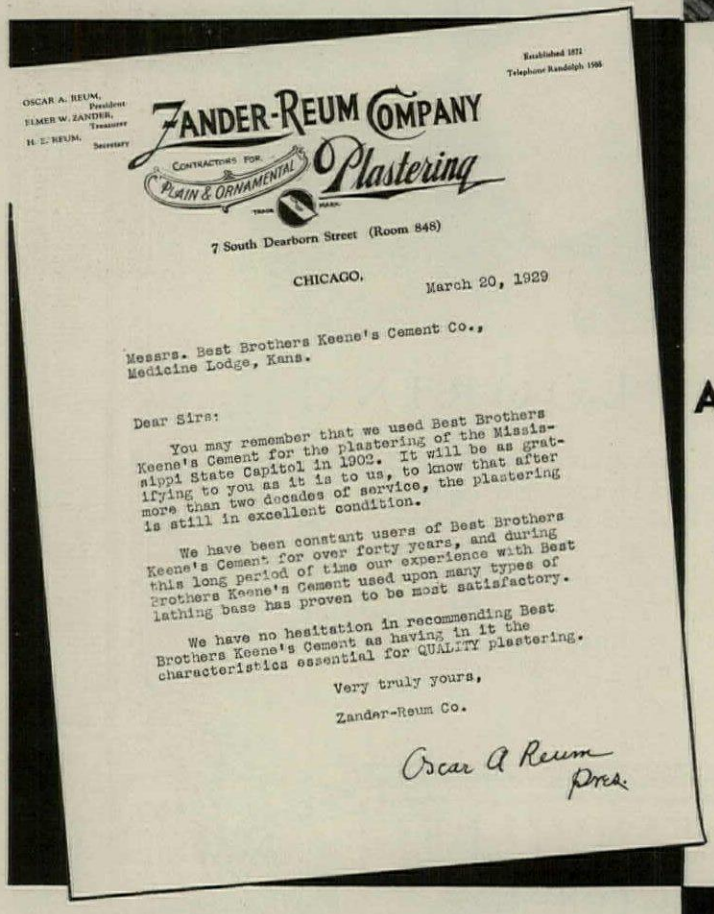
RUBBER TILE FLOORING

THE MISSISSIPPI CAPITOL

AFTER 28 YEARS . . . "Still in Excellent Condition" . . .



Looking up into the dome of the Mississippi State Capitol. Note the beautiful scagliola columns and intricate plaster designs of Best Bros. Keene's Cement. (Theo. C. Link, Supervising Architect)



Established 1871
Telephone Randolph 1566

OSCAR A. REUM, President
ELMER W. ZANDER, Treasurer
H. E. REUM, Secretary

ZANDER-REUM COMPANY
CONTRACTORS FOR PLAIN & ORNAMENTAL Plastering

7 South Dearborn Street (Room 848)

CHICAGO, March 20, 1929

Messrs. Best Brothers Keene's Cement Co.,
Medicine Lodge, Kans.

Dear Sirs:

You may remember that we used Best Brothers Keene's Cement for the plastering of the Mississippi State Capitol in 1902. It will be as gratifying to you as it is to us, to know that after more than two decades of service, the plastering is still in excellent condition.

We have been constant users of Best Brothers Keene's Cement for over forty years, and during this long period of time our experience with Best Brothers Keene's Cement used upon many types of lathing base has proven to be most satisfactory.

We have no hesitation in recommending Best Brothers Keene's Cement as having in it the characteristics essential for QUALITY plastering.

Very truly yours,

Zander-Reum Co.

Oscar A Reum
Pres.

THE Mississippi State Capitol, at Jackson, is another among many beautiful buildings where Best Bros. Keene's Cement has stood the test of time. Today . . . after 28 years of service . . . the interior of this stately structure holds its original beauty. The walls, ceilings and columns are in most excellent condition.

For more than 40 years Best Bros. Keene's Cement has proved its uniform high quality by the real measurement of value . . . *satisfactory results!*

AND NOW—

BEST BROS.
FAST FINISH
KEENE'S CEMENT

. . . the latest Best Bros. product for beautiful, enduring walls. This new FAST FINISH sacrifices none of the characteristics of Best Bros. (Regular) Keene's Cement. Used with good aged lime-putty, it will set up fast enough for finish troweling without waiting. It needs no admixtures. FAST FINISH produces the same excellent results as Best Bros. Regular Keene's and is readily adaptable to all types of modern interior finishes and color effects. Write for literature.

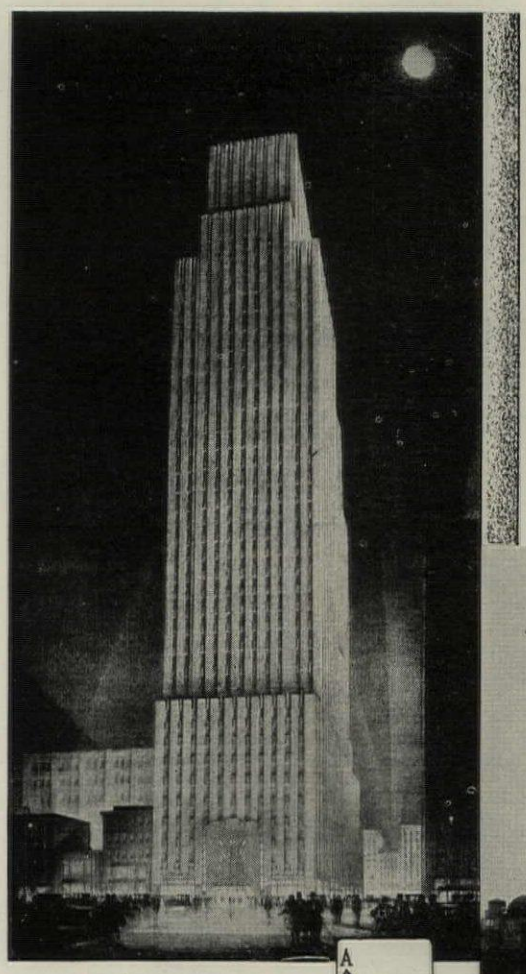
BEST BROS. KEENE'S CEMENT CO.
1040 W. 2nd Ave. Medicine Lodge, Kansas

Sales Offices in: New York, Chicago, Toledo, St. Louis, San Francisco, Kansas City, Philadelphia

(39)

BEST BROS.
KEENE'S
CEMENT
Always "BEST" for Plastering

TWO OF A KIND *in* NAME *and* WINDOW SHADES



Daily News Building, New York. John Mead Howells and Raymond Hood, architects. Equipped with durable du Pont Tontine window shades

Daily News Building, Chicago, Ill., Holabird and Root, architects. Equipped throughout with washable Tontine window shades

The Daily News Buildings in both New York and Chicago are equipped with washable Tontine window shades

YOU might call it a coincidence that both the Daily News Buildings in New York and Chicago have du Pont Tontine window shades. You *might*—if it were not for the fact that Tontine shades are being specified for so *many* of the new buildings in every field: office, hotel, school, hospital.

Once you have had experience with these window shades, the reasons for their universal acceptance are obvious. First and foremost, Tontine shades are washable. They can be *scrubbed* clean with soap and water over and over again. Scrubbing instantly restores their original newness and beauty.

Then, too, Tontine shades do not fade, pinhole or fray. Sunlight does not harm them. Rain does not harm them. They are wear-defying, and beautiful, too.

If you will take a moment to fill in the coupon, we shall be glad to send you further information and samples of these new and improved du Pont Tontine window shades.

E. I. DU PONT DE NEMOURS & CO., INC., NEWBURGH, N. Y.

Canadian subscribers address: Canadian Industries, Ltd., Fabrikoid Division, New Toronto, Ont., Canada.

DU PONT TONTINE
THE WASHABLE WINDOW SHADE

E. I. DU PONT DE NEMOURS & CO., INC.
Desk P. P. 11., Newburgh, N. Y.

Please send me complete information about Tontine, the washable window shade.

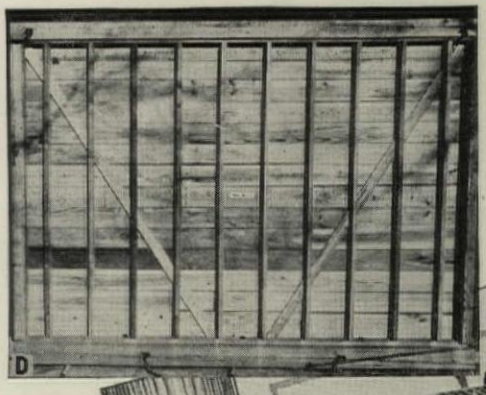
Name.....

Address.....

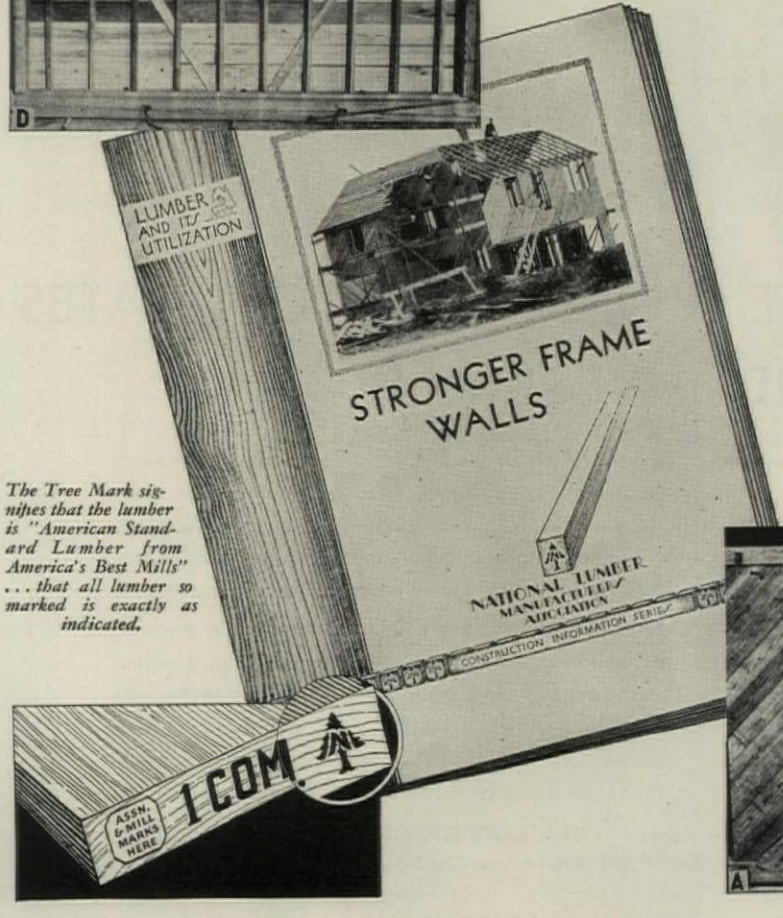
.....

Government Tests disclose

New Facts about Lumber Framing



Horizontal sheathing braces of let-in strips increase stiffness as compared to the horizontally sheathed wall 2½ times to 4 times, and the strength about 3½ times.



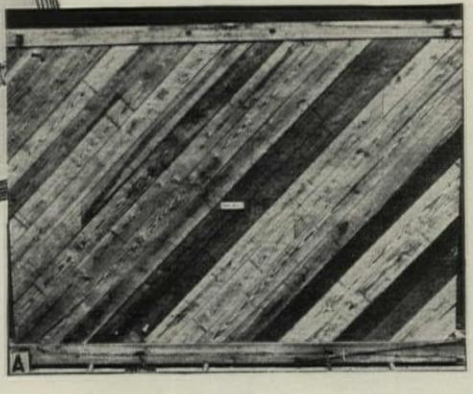
The Tree Mark signifies that the lumber is "American Standard Lumber from America's Best Mills" . . . that all lumber so marked is exactly as indicated.

WHAT type of wood wall is best suited for sections of the country subject to tornados . . . . hurricanes? Is diagonal sheathing really stronger than horizontal sheathing?

For years these questions, and many others, have interested architects charged with designing permanent, rigid structures. Definite answers are given by a series of *actual tests* just completed.

The U. S. Forest Products Laboratory built nearly fifty frame walls of full story height and submitted them to exacting tests. The whole story of how they reacted is told in an interesting booklet, "Stronger Frame Walls." This book answers many questions about the strength and rigidity of frame walls . . . . develops many new and startling facts.

The National Lumber Manufacturers Association, sponsor of Tree Mark lumber that is guaranteed to be exactly as stamped by the expert grader, will send, on request, a free copy of this amazing booklet. Mail the coupon today.



Ordinary stud and plate walls sheathed diagonally are 4 to 7 times as stiff and 7 to 8 times as strong as if horizontally sheathed.

NATIONAL LUMBER MANUFACTURERS ASSOCIATION

WASHINGTON, D. C.

Offices in New York · Boston · Pittsburgh · Indianapolis · Chicago
Minneapolis · Kansas City · Memphis · New Orleans
San Francisco · Los Angeles · Portland

National Lumber Manufacturers Association
Dept. 5911, Transportation Bldg., Washington, D.C.

Gentlemen: Please send me the free booklet, "Stronger Frame Walls."

Name_____

Address_____

City_____ State_____

American Exchange National Bank, Davenport, Iowa, equipped throughout with Bakelite Molded plates for switches and outlets

BANKS FIND BAKELITE MOLDED SWITCH PLATES A SOUND INVESTMENT

Buildings erected for banks, trust companies and other financial organizations, are invariably designed, and equipped, to reflect the stability of the institutions that own them. Because of their fine appearance, durability and safety, Bakelite Molded cover plates for switches and outlets are used in many of the splendid buildings in this class erected in recent years.

Cover plates of Bakelite Molded have many advantages. The color goes clear through the material, and the surface finish is permanent. There is no plating to wear off, and refinishing is never necessary. They do not stain and cannot corrode. As Bakelite Molded possesses high insulating value, these plates afford complete protection for the live electrical parts of switches and outlets.

Bakelite Materials are being used for a variety of building equipment, including wiring devices and cover plates, door knobs and escutcheons, lighting fixtures, paneling, and plumbing accessories. Ask us to send you information about these products and the names of manufacturers.

BAKELITE CORPORATION, 247 Park Avenue, New York. CHICAGO OFFICE, 635 West 22nd Street
BAKELITE CORPORATION OF CANADA, LIMITED, 163 Dufferin Street, Toronto, Ontario

BAKELITE

REGISTERED U. S. PAT. OFF.

"The registered Trade Mark and Symbol shown may be used only on products made from materials manufactured by Bakelite Corporation. Under the capital "B" is the numerical sign for infinity, or unlimited quantity. It symbolizes the infinite number of present and future uses of Bakelite Corporation's products."

THE MATERIAL OF A THOUSAND USES

Build the floor with color . . .

Red Gold Paisley
Dark Red with veinings of Gold and Black

Build it with individual tiles of Stedman Reinforced Rubber. Twenty-seven practical color types in squares and rectangles permit you to *design each floor* to fulfill the most exacting needs.

With this material you will also meet every practical requirement. Your floors will be well laid. They will be *quiet* and comfortable underfoot because Stedman Tile is firm yet resilient; *sanitary* because it is impervious; *durable* because it actually resists wear.

Stedman Reinforced* Rubber Tile

Grey Black
Grey with veining of Black

Buff Walnut
Buff with veining of Walnut

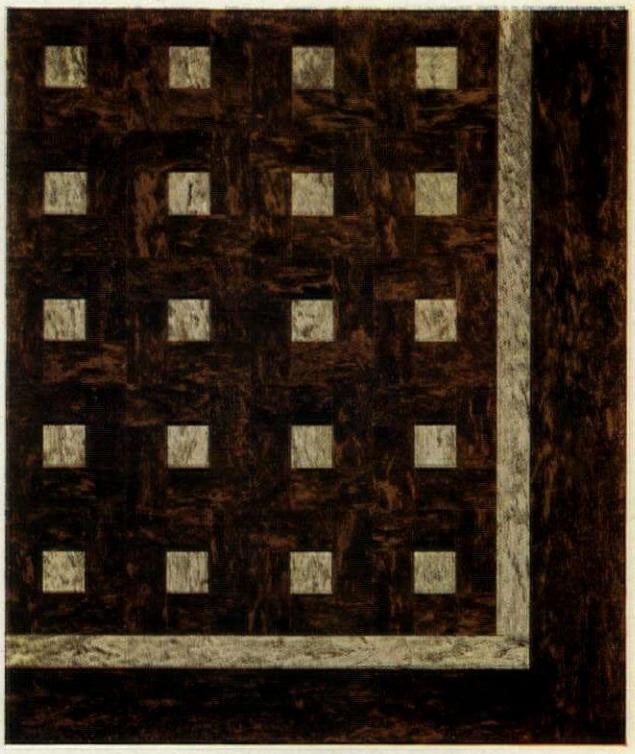
is produced by an organization devoted exclusively to the manufacture of rubber tile floors. Every detail from origin to final installation is in expert hands. More than 9 million square feet already installed testify to its success.

Color charts, samples, and a booklet containing full information will be sent free upon request.

STEDMAN RUBBER FLOORING COMPANY
SOUTH BRAINTREE, MASSACHUSETTS

O.S.-Red
Cream with veinings of Black and Dark Red

Verde Antique
Black with veinings of Sea Green and Cream



Design No. 11A. The color choices in this instance are rectangles of Black Red surrounding a square of O—S Red. The variety of color combinations for this design is unlimited.

Black Green
Black with veining of Sea Green

Pink Tennessee
Cream with veinings of Pink and Walnut

***REINFORCED: In the Stedman Process minute cotton filaments, uniting with the rubber under high pressure and heat, are responsible for its unusual resistance to wear and distention, its lasting resilience and smooth, impervious surface—characterized by color veinings of remarkable fineness and beauty.**

1. *Continental Life Insurance Building, St. Louis, Mo.*
Architect—Wm. B. Ittner, Inc., St. Louis
Electrical Contractor—E. O. Dorsch Electric Co., St. Louis

2. *Ambassador Theatre and Office Building, St. Louis, Mo.*
Architects—Rapp & Rapp, Chicago
Electrical Contractors—Rick-Chapline Electric Co., St. Louis

3. *Civil Courts Building, St. Louis, Mo.*
Architect—Wm. B. Ittner, St. Louis
Electrical Engineer—Rodney Smith, St. Louis
Electrical Contractors—E. A. Koneman Electric Co., St. Louis

4. *Professional Building, Kansas City, Mo.*
Architects—Chas. A. Smith & Geo. E. McIntyre, Kansas City
Electrical Contractor—Edw. P. Allison Electric Co., St. Louis

5. *Hotel Lennox, St. Louis, Mo.*
Architect—P. J. Bradshaw, St. Louis
Electrical Contractors—Chapline Electric Co., St. Louis

6. *Union Bus Terminal and Pickwick Hotel, Kansas City, Mo.*
Architects—Wight & Wight, Kansas City
Engineers—Henrici & Lowry, Kansas City
Electrical Contractors—L. K. Comstock & Co., Inc., Chicago

7. *De Paul Hospital, St. Louis, Mo.*
Architects—O'Meara & Hills, St. Louis
Associate Architect—G. E. Quick, St. Louis
Electrical Contractor—Eclipse Electric Co., St. Louis

8. *President Hotel, Kansas City, Mo.*
Architects—Shepard & Wiser, Kansas City
Engineers—Matkin Engineering Co., Kansas City
Electrical Contractors—Hutchinson Electric Co., Kansas City

BRYANT in Missouri's Metropolises

IN both St. Louis and Kansas City, "Bryant Equipped" Buildings stand out prominently. The eight buildings illustrated are recent examples of the splendid work being done by the architects, engineers and contractors responsible for their construction. That "Bryant Superior Wiring Devices" were used is evidence of their good judgment.

A:11

THE BRYANT ELECTRIC COMPANY

BRIDGEPORT CONNECTICUT, U.S.A.

BOSTON · CHICAGO · NEW YORK PHILADELPHIA · SAN FRANCISCO

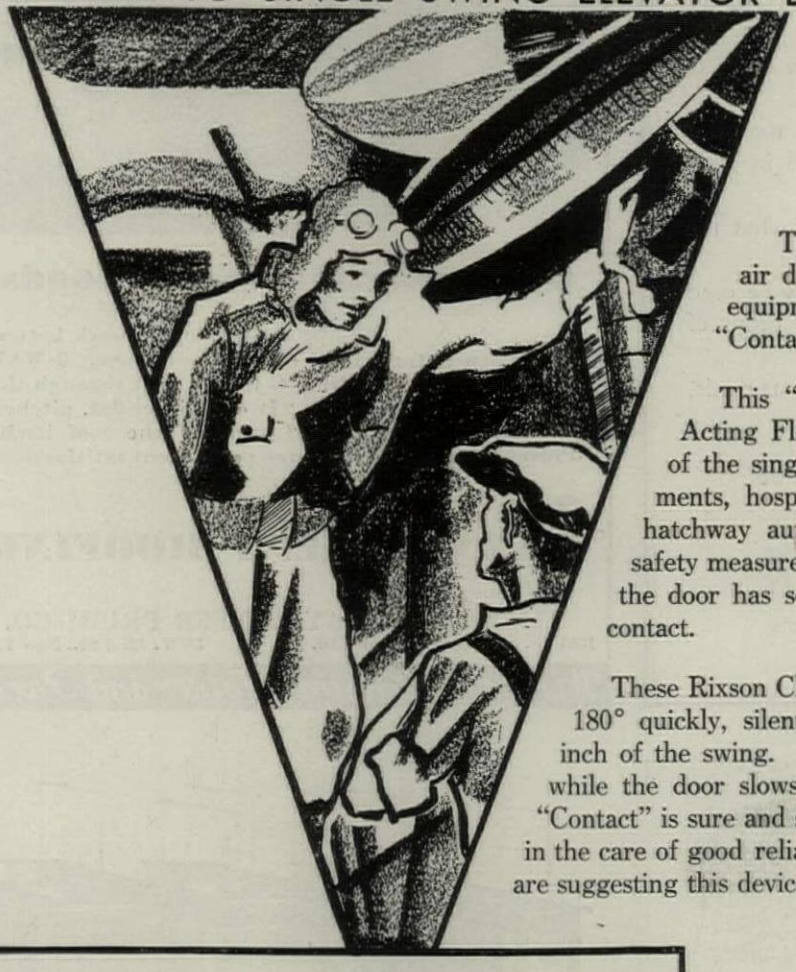
50 High Street 844 West Adams Street 60 East 42nd Street 1333 Chestnut Street 149 New Montgomery Street

BRYANT SUPERIOR WIRING DEVICES

MANUFACTURERS OF "SUPERIOR WIRING DEVICES" SINCE 1888 - MANUFACTURERS OF HEMCO PRODUCTS

"CONTACT"

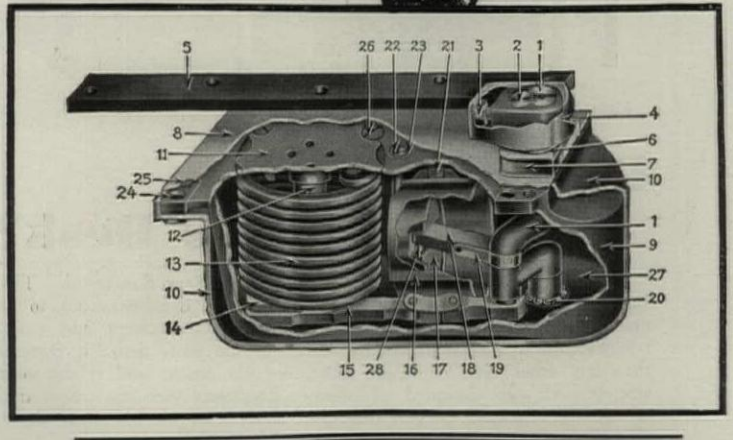
AS VITAL TO SINGLE SWING ELEVATOR DOORS AS TO SKYWARD BOUND PILOTS . . . .



The daily adventure of man's flight in the air depends for safety and success on reliable equipment. At the moment the pilot shouts, "Contact!" the whole plane is put to the test.

This "contact" is the duty of Rixson Single Acting Floor Checks as applied to elevator doors of the single swing type in residential hotels, apartments, hospitals and other institutions where flush hatchway automatic elevators are used. The usual safety measure is to make the elevator inoperative until the door has settled snugly home closing an electrical contact.

These Rixson Checks will close elevator doors from a full 180° quickly, silently and positively—under control every inch of the swing. There is no slam, nor any irritating delay while the door slows down weakly at the end of the swing. "Contact" is sure and safe, and the elevator passengers take off in the care of good reliable equipment. Elevator manufacturers are suggesting this device as an integral part of their installations.



OUR CATALOGUE IS FILED IN SWEET'S

THE OSCAR C. RIXSON COMPANY
4450 Carroll Avenue Chicago, Ill.
New York Office: 101 Park Avenue, N. Y. C.

No. 20 *and* 25 Single Acting FLOOR CHECKS

RIXSON created a type. You can buy the originals only from

RIXSON

PHILADELPHIA ATLANTA NEW ORLEANS LOS ANGELES WINNIPEG

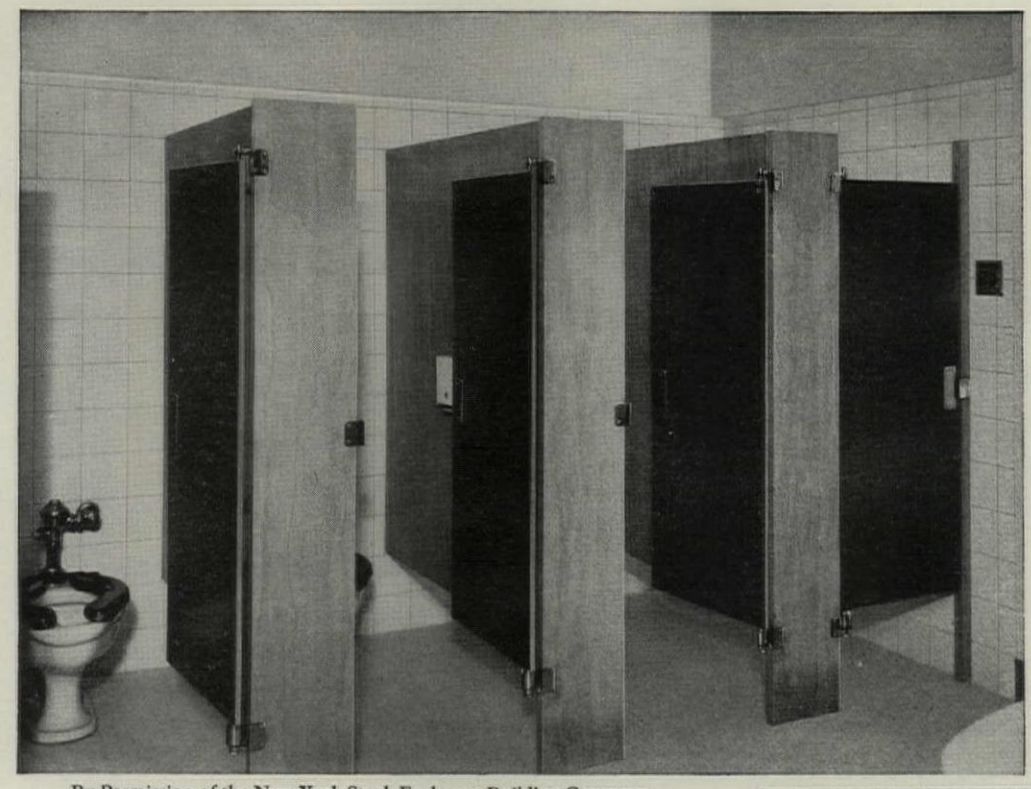
MAKE A CHRISTMAS GIFT TO ALL HUMANITY

This little reminder booklet, for listing the Christmas cards and gifts you wish to send, will help you in your Christmas shopping. It costs a dollar—and this dollar goes into the fight for the control of cancer. The fight against cancer has been waged by the New York Cancer Committee for four years, and has been the means of saving many valuable lives to the community. Your contribution will be a Christmas gift to all humanity.

NEW YORK CITY CANCER COMMITTEE

OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

34 East 75th Street, New York City · Rhinelander 0435



By Permission of the New York Stock Exchange Building Company

. . . DEPENDABILITY HAS BEEN PROVED

VENEER-STEEL Partitions for toilets, showers, dressing rooms—for ward screens and dwarf partitions in hospitals—have thoroughly established their dependability. Here are partitions that will stand up against rough use, time, hot and cold water, and excessive temperature changes.

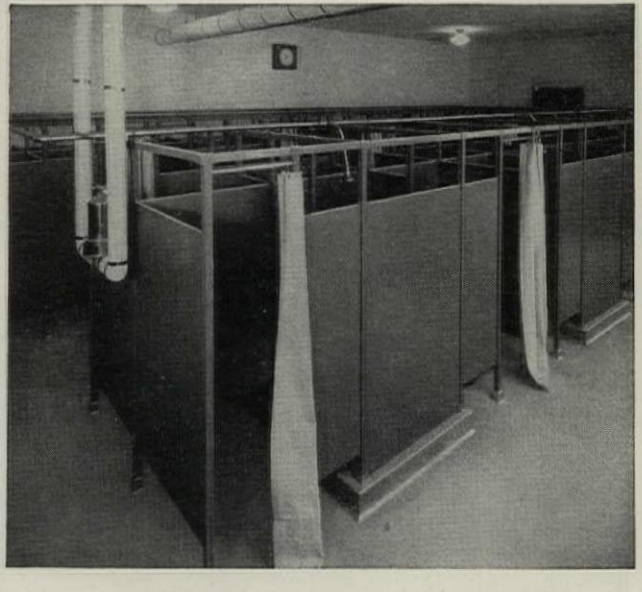
Veneer-Steel Partitions and Doors are rust-proofed, noiseless, non-absorbent and flush-type. They are built of *galvanized* sheets overlaid on a fibre core and cemented thereto with all edges soldered. All posts and wall attachments are sherardized inside and out after fabrication.

Hardware solid white brass buffed bright or pressed brass chromium plated. Because Veneer-Steel Doors and Partitions are solder sealed they are impervious to moisture and cannot absorb or retain odors. Standard finishes for Veneer-Steel Partitions and Doors are olive green and grey. Special finishes and wood grains can also be supplied.

Veneer-Steel TRADE MARK REG.

IN OFFICE STRUCTURES PARTICULARLY

Veneer-Steel sound-proof doors on partitions of marble, structural glass, etc., have found great acceptance in office structures. The hinge used is the famous Hart & Hutchinson ball-bearing gravity type—proved insurance of trouble-proof performance.



CONCERNING GALVANIZING

W. T. Flanders of the Malleable Iron Fittings Co. says in his book:

"GALVANIZING and TINNING"

"IT has not yet been discovered how to regenerate steel. Until such a discovery is made we are compelled to resort to embalming.

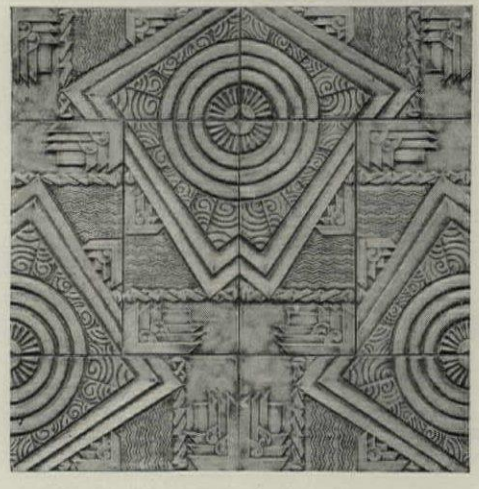
"The metallic method of embalming consists of coating the steel with some other metal, and zinc is without doubt, the best protective coating for iron and steel."

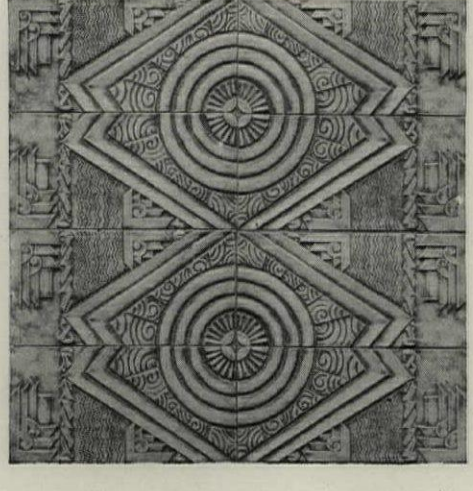
Veneer-steel Partitions and Doors are galvanized.

Complete details found in Sweet's or send for bulletins

THE HART & HUTCHINSON COMPANY

BRANCHES IN NEW YORK CITY, PHILADELPHIA AND BOSTON
FACTORY—NEW BRITAIN, CONN. . . AGENTS IN OTHER PRINCIPAL CITIES





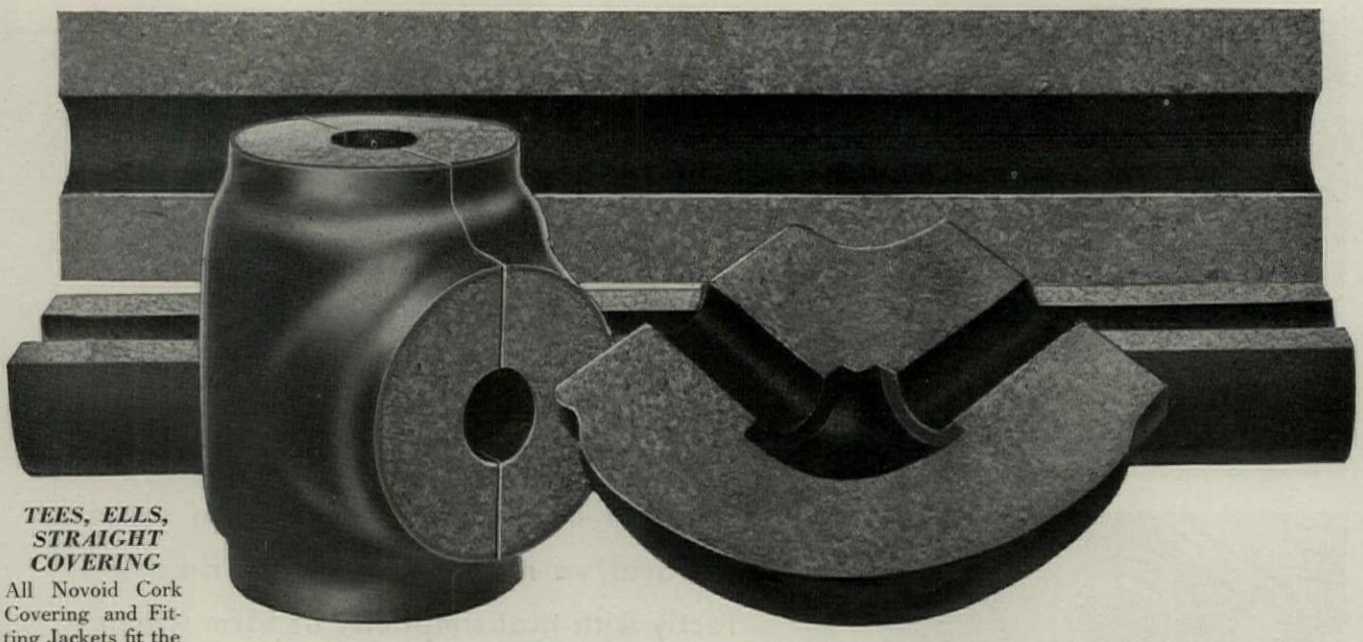
EVEN as nature etches upon the walls of cliff and canyon, patterns of beauty men can't forget, so the architect may embellish with fine designs the work of his own creation. White as new-fallen snow or colorful as a mountain sunset, decorative motifs may harmonize perfectly with that simplicity of form which is the keynote of the architecture of today.

For the reproduction of those unique and lace-like forms, so characteristic of modern ornament—whether geometrical, or otherwise—Northwestern Terra Cotta is the ideal medium.

The accompanying illustrations show a variety of designs all of which are constructed from one master mould of unusual form. Other designs of endless diversity may be invented or arranged. And each unit of terra cotta enrichment can faithfully be duplicated, as often as desired, from an original model, thus linking marked economy with lasting beauty.

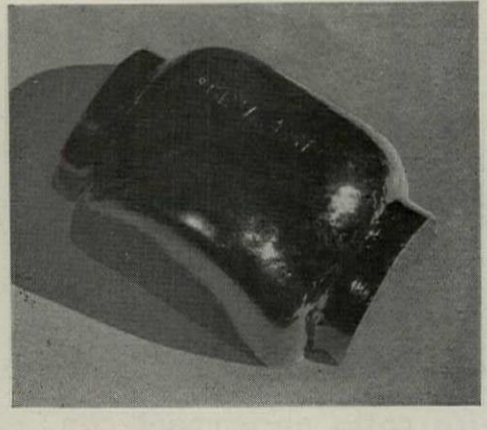
THE NORTHWESTERN TERRA COTTA COMPANY

DENVER · CHICAGO · ST. LOUIS



TEES, ELLS, STRAIGHT COVERING
All Novoid Cork Covering and Fitting Jackets fit the line tightly—keep out moisture.

"Ready-to-Wear" INSULATION that fits like "Tailor-Made"



Close-structured, mineral rubber coated, *this Novoid Cork Jacket for a globe valve prevents refrigeration loss—assures moisture-proof insulation*

Novoid Cork Fitting Jackets eliminate makeshift methods

NOVOID Cork Fitting Jackets are accurately molded to fit tees, ells, valves and other fittings just as closely as Novoid Cork Covering fits straight runs of pipe. There are no spaces in which moisture might accumulate and every fitting is protected with an ample thickness of cork.

Novoid Fitting Jackets eliminate any necessity for the use of plastic or fibrous materials or mitered "stove pipe" covers, which are always unsatisfactory and expensive in the end.

Novoid Cork Covering and Cork Fitting Jackets are made of pure granulated cork and are non-absorbent of moisture. Furthermore, they are coated inside and out with mineral rubber and when properly erected will save a maximum of refrigeration at minimum final cost.

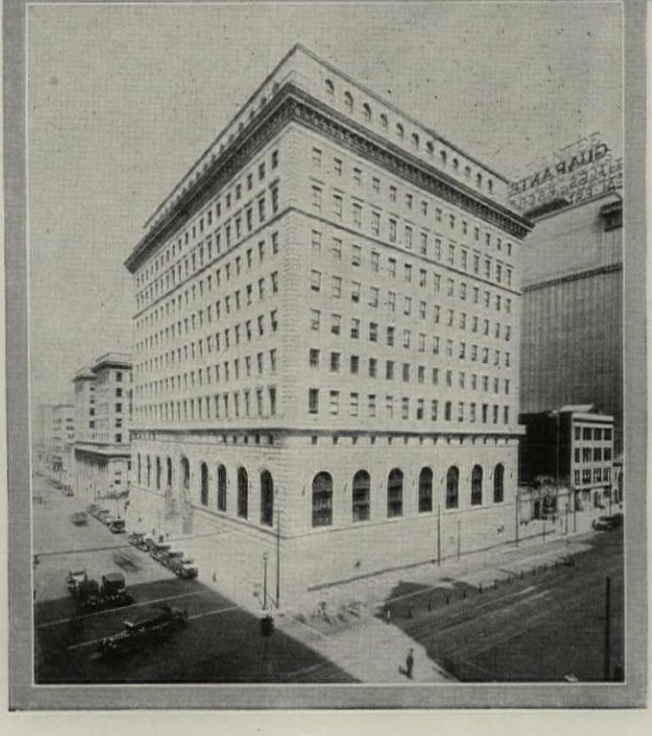
Novoid Cork Covering and Fitting Jackets are made in sizes from ¼ inch up, and in three thicknesses for varying temperature conditions. At your request samples and detailed information will be sent without obligation.

Address your letter, now, to Cork Import Corporation, 345 West 40th Street, New York City.

Novoid Cork Covering

For Cold Lines, Coolers and Tanks

GEORGIA MARBLE



EASY TO CLEAN

This building, completed in 1922, has just been cleaned for the first time, with satisfactory results, as shown by these illustrations . . . Of all the building stones, we believe that Georgia Marble is the easiest to clean because, due to its non-absorptive character, dirt rests on the surface rather than permeating the stone . . . Even in urban centers scrubbing with a stiff brush every few years keeps Georgia Marble bright. When dirt has been allowed to collect over a longer period of years until the marble is completely masked sand-blasting is usually resorted to as the most economical method of cleaning. But this method of cleaning so harmful to many of the commoner stones hardly "touches" Georgia Marble,—the dirt is removed, but all mouldings and carvings remain sharp and unpitted.

Federal Reserve Bank, Cleveland, Ohio, Walker & Weeks, *Architects.* Henry Herring, *Sculptor.* The exterior and the colossal statues are of Etowah Pink Georgia Marble.

THE GEORGIA MARBLE CO. • TATE • GEORGIA

NEW YORK ATLANTA CHICAGO DALLAS CLEVELAND

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of PENCIL POINTS published monthly at Stamford, Conn., for October 1, 1930.

State of New York } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared W. V. Montgomery, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the Corporation publishing PENCIL POINTS and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, The Pencil Points Press, Inc., 419 Fourth Avenue, New York City.

Editor, R. F. Whitehead, 419 Fourth Ave., New York City.

Managing Editor, None.

Business Manager, W. V. Montgomery, 419 Fourth Avenue, New York City.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

The Pencil Points Press, Inc., 419 Fourth Avenue, New York City.
Ralph Reinhold, 419 Fourth Avenue, New York City.
L. F. Nellis, 419 Fourth Avenue, New York City.
W. V. Montgomery, 419 Fourth Ave., New York City

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is ..... (This information is required from daily publications only.)

W. V. MONTGOMERY,
Business Manager.

Sworn to and subscribed before me this twenty-fourth day of September, 1930.

CURVILLE C. ROBINSON,
Notary Public.

(My commission expires March 30, 1932.)

Ernest W Watson and A. L. Guptill

announce that in response to a steadily increasing demand for instruction in the arts, they are opening a school in down-town Brooklyn, N. Y., to be known as the

WATSON-GUPTILL SCHOOL OF ART

CLASSES. Later announcement will be made describing the day and evening classes in Art (including Illustration and Advertising Design), Architecture and Interior Decoration. Of particular interest to architects and draftsmen at the moment are two evening classes opening in November; one a class in ARCHITECTURAL RENDERING under the personal instruction of Mr. Guptill, and the other "THE SATURDAY NIGHT SKETCH CLUB" with Mr. Watson in charge.

MR. GUPTILL'S RENDERING CLASS is offered in response to many requests for an evening course in the rendering of architectural perspectives and informal elevations. There will be both individual and class criticism, together with supplementary lectures. Numerous types of renderings will be analysed and various mediums will be discussed, with emphasis on water color. The student will be allowed wide latitude in his choice of subject, medium and method. Both exteriors and interiors will be studied. This class will of necessity be limited in numbers, so those interested in further information should write at once.

AN INSTRUMENTAL PERSPECTIVE CLASS conducted under Mr. Guptill's direction is planned for those who wish to learn to render but who lack the essential knowledge of perspective layout. This course can be taken separately or in conjunction with the rendering course.

MR. WATSON'S "SATURDAY NIGHT SKETCH CLUB" is now being organized, with Mr. Watson personally in charge. Men with plenty of sketching experience as well as "hopefuls" are invited to membership in this club. There will be men who come because they love to sketch and to fraternize with fellow sketching enthusiasts rather than to seek instruction. Others will wish definite instruction in the art of making sketches, instruction which Mr. Watson is planning to present in a decidedly new and interesting manner. Exhibitions of sketches, etchings and prints, criticism of member's work, and an occasional talk by someone with a message, will be of equal interest to all.

Just how this club will be organized Mr. Watson prefers not to decide without the advice of the members. He invites all who may be interested to meet at the club rooms in the school on some Saturday night in the near future. Please write to him at once and he will send you further information.

OTHER ARCHITECTURAL CLASSES. If there is sufficient demand, additional evening classes will be organized at an early date in such subjects as Elementary and Advanced Architectural Drafting, Architectural Elements, The Orders, Shades and Shadows, Estimating, Specification Writing, etc. Suggestions for classes are invited. Day classes in all subjects will be formed about the first of the year.

FOR FURTHER INFORMATION ADDRESS THE
WATSON-GUPTILL SCHOOL OF ART
MAIL ADDRESS UNTIL PERMANENT QUARTERS ARE SECURED, 181 EMERSON PLACE, BROOKLYN, N. Y.

WITH AND FOR OUR ADVERTISERS

ADVERTISING OFFICE, 419 FOURTH AVE., NEW YORK, N. Y., PHILIP H. HUBBARD, *Advertising Manager*
District Offices: 1050 Straus Building, Chicago; 953 Leader Building, Cleveland; 381 Bush St., San Francisco.

The United States Rubber Co., Flooring Division, Providence, R. I., announces the introduction of a new material to be known as "U.S." Royalite, an architectural rubber. It was purposely designed to fulfill the demands of present-day architectural projects and is especially adaptable for floors, wainscoting and for interior trim. This new material is not an imitation of marble, wood or stone. It has a unique texture and is made in a wide variety of sun-proof colors.

After more than two years of experiment and testing, Fred C. Andersen, president of the Andersen Frame Corporation, Bayport, Minn., has announced an addition to their line of frames—a frame made entirely of Pondosa Pine with all important joints primed with aluminum paint. This is in addition to the regular line of genuine White Pine frames which this company has always made. Each type of frame will be identical so far as construction details and mill accuracy are concerned. Special machinery designed for the purpose has been installed in their frame plant at Bayport, Minn., to do the priming.

A new medicine cabinet, the Electro-Kabinet, equipped with bathroom lighting fixtures, electrical receptacle, towel shelf and water bottle hooks, and especially suitable for hotels and remodeling work, has been placed on the market by the Welded Products Corporation, Kansas City, Mo. The new hotel de luxe models are constructed with set of artistic built-in light fixtures, placed to cast the best light reflection on the French plate glass mirror. A convenient service is offered by the receptacle plug in the Electro-Kabinet to which may be attached curling iron, heater, fan or other electrical appliances. The two light fixtures, receptacle plug, and switch are all serviced by one electrical outlet box. In addition, these models are fitted with ample towel shelf space. Rods form water bag hooks at either side, while a razor blade safety drop provides a modern safe method of disposal. Where access to pipe shaft is required, the Electro-Kabinet is hinged to metal buck.

The Libbey-Owens-Ford Glass Co., Toledo, Ohio, manufacturers of safety glass, sheet glass and polished plate glass, announces that it has now added radio broadcasting to its advertising and merchandising program. The central figure in these programs will be Floyd Gibbons, who will present a new series of "World Adventures." The programs are broadcast through WJZ and associated stations of the National Broadcasting Co., on Sunday evenings at 9:30 o'clock, Eastern standard time.

In order to meet the increasing economic need for a high-grade wall block of standard size, adaptable for wainscoting and interior wall facing of all kinds, and which can be furnished at a price considerably below that of handmade terra cotta, The Northwestern Terra Cotta Co., Chicago, Ill., has installed in its plant special equipment to meet this demand.

The Master Builders Co., Cleveland, O., has added two new products to its line of concrete hardners, waterproofings, etc. One of these, Brikron, is an admixture for masonry which minimizes efflorescence, waterproofs the joint, protects mortar colors from fading and prevents cracking and general disintegration of the mortar joint. The other new product, Colored Metalicron, is a material which when mixed with cement and trowelled into freshly floated cement finish, colors, slipproofs and waterproofs the floor.

Printing of Pencil Points by The Gillespie Bros., Inc., Stamford, Conn., U. S. A.

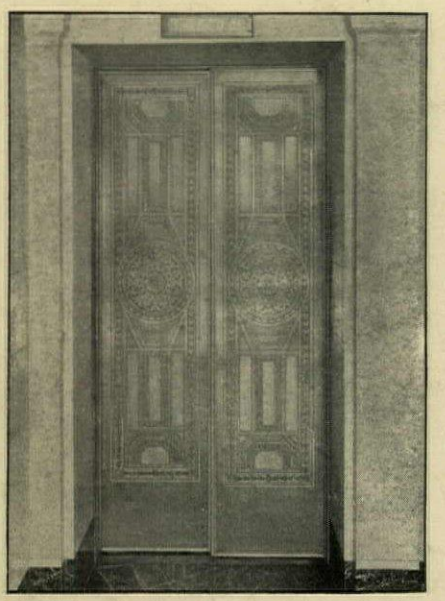
BANK *of* MANHATTAN BUILDING

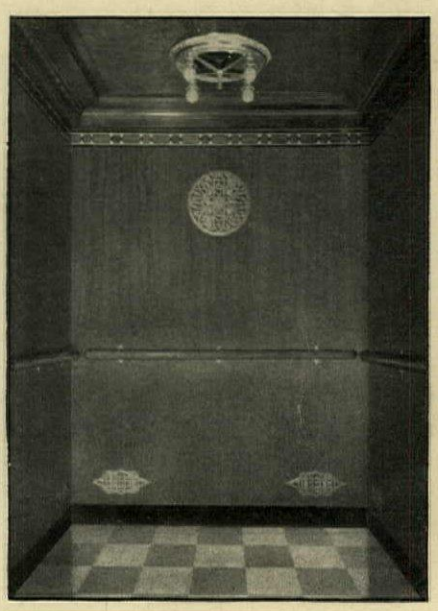
40 WALL STREET
NEW YORK CITY

Architect:
H. CRAIG SEVERANCE, Inc.

Associate Architect:
YASUO MATSUI

General Contractors:
STARRETT BROS. & EKEN, INC.





THE TYLER CO.
CLEVELAND, OHIO

"Tyler Equipped"

TYLER Elevator Cars and Entrances